COVID-19, Breastfeeding, Infant Feeding, Breast Milk – Literature Repository
February 1, 2020 – April 30, 2021

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
New publications since our last update have been highlighted in BLUE (**23 new ones since April 21st, 2021).** Note: we select articles that discuss breast milk and SARS-CoV-2, but also articles that report on formula use, feeding difficulties in newborns, and/or that discuss infant feeding recommendations in the context of COVID-19.This represents the final version of the repository (updated April 30th, 2021)							
Vaccination, safety, breastfeeding, mRNA vaccine, maternal outcomes, children	25-Apr-21	Maternal and child outcomes reported by breastfeeding women following mRNA COVID-19 vaccination	medRxiv	Preprint (not peer-reviewed)	In this study, the authors evaluated vaccinated breastfeeding women and their breastfed children. 180 breastfeeding women in the USA who received an mRNA vaccine from December 14, 2020-February 1, 2021 were enrolled at the University of California, San Diego, USA (128 women (71.1%) received Pfizer and 52 (28.9%) received Moderna). Maternal symptoms and child events were collected by maternal interview and questionnaire for 7 days following each dose. Child age at enrollment averaged 7.47 months (range 0.09-27.45 months). Following dose one, similar proportions of women reported any vaccine symptom (89.4% Pfizer; 98.1% Moderna). Following dose two, women who received Moderna were significantly more likely to report systemic side effects or localized symptoms than women who received Pfizer (all p's <0.05). A small proportion of women reported a reduction in milk supply, with a significant difference following dose 2 by brand (8.0% vs. 23.4% for Pfizer and Moderna, respectively, p<0.05). However, in all cases milk production returned to normal within 72 hours. No serious adverse events were noted. Few events were reported for children. Significantly more drowsiness was reported for children whose mothers received Moderna vs. Pfizer (0% vs. 6.4%, p=0.02). The authors conclude that these data are reassuring regarding the safety of vaccination in breastfeeding women with either of the mRNA COVID-19 vaccines.	In this study, the authors evaluated vaccinated breastfeeding women in the USA and their breastfed children following mRNA vaccination with either Pfizer or Moderna vaccines. More than 85% of 180 breastfeeding women reported local or systemic symptoms, with higher frequency following the second dose especially for Moderna. Few symptoms were reported in their breastfed children, and no serious adverse events were noted. The authors conclude that these data are reassuring regarding the safety of vaccination in breastfeeding women with either of the mRNA COVID-19 vaccines.	Betrand K, Honerkamp-Smith G, Chambers C. Maternal and child outcomes reported by breastfeeding women following mRNA COVID-19 vaccination. medRxiv. 2021; doi.org/10.1101/2021.04.21.21255841
Gestational Diabetes; Diabetes Mellitus Type 1; Diabetes Mellitus Type 2; COVID-19; Pregnancy; Vaccines	24-Apr-21	COVID-19 Vaccination in Pregnant and Lactating Diabetic Women	Nutrition, Metabolism and Cardiovascular Diseases	Viewpoint	This viewpoint aims to discuss the available data on COVID-19 vaccination for diabetic women during pregnancy and/or breastfeeding. It is known that pregnant women with COVID-19 are at increased risk for admission to the ICU and have higher rates of preterm delivery. Additionally, a study by Zhang Y et al. showed diabetic and/or obese patients with COVID-19 are associated with worse prognosis and increased risk of mortality (OR: 5.47, 95% CI: 1.56-19.82, p=0.01) compared to patients without diabetes or obesity. Because of these co-morbidities, diabetic and/or obese pregnant women are a vulnerable population where SARS-CoV-2 infection prevention is crucial for both mother and fetus. However, since pregnant women are excluded from clinical trials, there is very little information are available on safety and efficacy of the COVID-19 or any mRNA vaccine during pregnancy. Despite this, there is no reason to expect that different effects of mRNA vaccines in pregnant as compare to non-pregnant women as vaccination during pregnancy is a common practice as the benefit of vaccination is likely to outweigh the potential risk. Pregnant women should be counselled by their healthcare provider before receiving the COVID-19 vaccine, but general consensus is that diabetic women during pregnancy or currently breastfeeding may receive the vaccine to prevent the health complications associated with SARS-CoV-2 infection.	This viewpoint discusses available data on COVID-19 vaccination for diabetic women during pregnancy and/or breastfeeding. Diabetic and/or obese pregnant women are a vulnerable population where SARS-CoV-2 infection prevention is crucial for both mother and fetus. Pregnant women should be counselled by their healthcare provider before vaccination, but general consensus is that diabetic women who are pregnant or breastfeeding may receive the vaccine to prevent health complications associated with SARS-CoV-2 infection.	Sculli MA, Formoso G, Sciacca L. COVID-19 Vaccination in Pregnant and Lactating Diabetic Women [published online ahead of print, 2021 Apr 24]. Nutr Metab Cardiovasc Dis. 2021; S0939-4753(21)00182-4. doi:10.1016/j.numecd.2021.04.012

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COVID-19; pregnancy; management; mitigation strategies	23-Apr-21	SARS-CoV-2 infection during pregnancy and pregnancy-related conditions: concerns, challenges, management and mitigation strategies – a narrative review	Journal of Infection and Public Health	Review	In this review, the authors raised concerns of infection risk, morbidity, and mortality from SARS-CoV-2 in pregnant women and discussed the pathophysiology and pathobiology of SARS-CoV-2 infection during pregnancy. Pregnant women are considered a vulnerable group due to the detrimental effects of SARS-CoV-2 infection observed in expectant mothers and their fetuses. Multi-pronged factors, including physiological anatomic changes, hormonal imbalance, immune system alterations, and increased ACE2 expression, might contribute to increased severity of COVID-19 in pregnancy. This article also discussed current evidence on vertical transmission of SARS-CoV-2 during pregnancy and breastfeeding. A number of studies have found elevated antibodies (IgM and IgG) and cytokine levels in the blood of neonates of infected mothers, suggesting in utero transmission of SARS-CoV-2. Other studies have not detected mother-to-fetus SARS-CoV-2 transmission, and have shared negative test results from breast milk, vaginal swabs, umbilical cord blood, and amniotic fluid. For uninfected mothers, the authors say breastfeeding should be allowed with precautions, including the use of a surgical mask, hand hygiene before and after contact, and cleaning of breast skin and contact surfaces. For infected mothers, the authors recommend pumping or extracting milk under strict hygiene, and feeding of the neonate by a healthy person.	In this review, the authors raised concerns of infection risk, morbidity, and mortality from SARS-CoV-2 in pregnant women and discussed the pathophysiology and pathobiology of SARS-CoV-2 infection during pregnancy. A number of studies have found elevated antibodies (IgM and IgG) and cytokine levels in the blood of neonates of infected mothers, suggesting in utero transmission of SARS-CoV-2. Other studies have not detected mother-to-fetus SARS-CoV-2 transmission, and have shared negative test results from breast milk, vaginal swabs, umbilical cord blood, and amniotic fluid.	Kumar R, Yeni CM, Utami NA, et al. SARS-CoV-2 infection during pregnancy and pregnancy-related conditions: concerns, challenges, management and mitigation strategies – a narrative review. J Infect Public Health. 2021. doi:10.1016/j.jiph.2021.04.005.
Breastfeeding, infant, pediatrics, knowledge, guidelines	22-Apr-21	Assessment of knowledge and opinion regarding breastfeeding practices during COVID-19 pandemic among paediatricians and obstetricians in India: an online survey	Sudanese Journal of Paediatrics	Original Research	The authors conducted this observational cross-sectional study in India to assess knowledge regarding breastfeeding practices among Indian pediatricians and obstetricians during the COVID-19 pandemic. An online survey was distributed from May 30-June 14, 2020 among 543 participants across India (462 (85.1%) pediatricians and 81 (14.9%) obstetricians). 72% (n = 390) responded that the COVID-19 virus cannot pass through breastmilk, while 81 (14.9%) thought it could, and 72 (13.3%) were not sure. The majority of doctors (91.7%) were in support of breastfeeding in communities where COVID-19 is prevalent. 48.1% answered that the newborn should not be placed in direct contact with a mother with SARS-CoV-2 and should not breastfeed immediately. 74.6% reported that they would advise expressed breast milk for confirmed/suspected SARS-CoV-2 mothers, while 12.2% of doctors would advise infant formula milk as an alternative to breastfeeding. 38.9% of doctors reported receiving information regarding breastfeeding during the COVID-19 pandemic from the internet, while 15% were not aware of any guidelines or recommendations during the pandemic. Based on total correct responses, only 54% of respondents were deemed to have adequate knowledge of the topic. The authors conclude that a more rigorous dissemination of information on breastfeeding practices in COVID-19 needs to be adopted in India.	In this study, the authors assessed knowledge regarding breastfeeding practices among Indian pediatricians and obstetricians during the COVID-19 pandemic. 15% of respondents were not aware of any guidelines or recommendations, and only 54% of respondents were deemed to have adequate knowledge of the topic. The authors conclude that a more rigorous dissemination of information on breastfeeding practices in COVID-19 needs to be adopted in India.	Malik S, Joshi P, Gupta PK, Sharma S. Assessment of knowledge and opinion regarding breastfeeding practices during COVID-19 pandemic among paediatricians and obstetricians in India: an online survey. Sudan J Paediatr. 2021;21(1):30-35. doi:10.24911/SJP.106-1598349125
COVID-19, SARS-CoV-2, Pregnancy, Maternal Outcomes, Neonatal	22-Apr-21	Maternal and Neonatal Morbidity and Mortality Among Pregnant Women With and Without	Journal of the American Medical Association (JAMA) Pediatrics	Original Research	The authors of this study aimed to evaluate the risks associated with COVID-19 in pregnancy on maternal and neonatal outcomes compared with not-infected, concomitant pregnant individuals. The study period was from March to October 2020, involving 43 institutions in 18 countries. A total of 706 pregnant women with COVID-19 diagnosis and 1424 pregnant women without COVID-19 diagnosis were enrolled, all with broadly similar demographic characteristics (mean [SD] age, 30.2 [6.1] years). Women with	The authors of this study aimed to evaluate the risks associated with COVID-19 in pregnancy on maternal and neonatal outcomes compared with not-infected, concomitant pregnant individuals. The study results showed that	Villar J, Ariff S, Gunier RB, et al. Maternal and Neonatal Morbidity and Mortality Among Pregnant Women With and Without COVID-19 Infection: The

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Outcomes, Neonates		COVID-19 Infection: The INTERCOVID Multinational Cohort Study			a diagnosis of COVID-19 were at higher risk for preeclampsia/eclampsia (RR: 1.76, 95% CI: 1.27-2.43), severe infections (RR: 3.38, 95% CI: 1.63-7.01), ICU admission (RR: 5.04, 95% CI: 3.13-8.10), maternal mortality (RR: 22.3, 95% CI: 2.88-172), preterm birth (RR: 1.59, 95% CI: 1.30-1.94), severe neonatal morbidity index (RR, 2.66; 95% CI, 1.69-4.18), and severe perinatal morbidity and mortality index (RR, 2.14; 95% CI, 1.66-2.75). Fever and shortness of breath for any duration were associated with increased risk of severe maternal complications (RR, 2.56; 95% CI, 1.92-3.40) and neonatal complications (RR, 4.97; 95% CI, 2.11-11.69). Asymptomatic women diagnosed with COVID-19 remained at higher risk only for maternal morbidity (RR: 1.24, 95% CI: 1.00-1.54) and preeclampsia (RR: 1.63, 95% CI: 1.01-2.63). Among women who tested positive (98.1% by real-time polymerase chain reaction), 54 (13%) of their neonates tested positive. Cesarean delivery (RR, 2.15; 95% CI, 1.18-3.91) but not breastfeeding (RR, 1.10; 95% CI, 0.66-1.85) was associated with increased risk for neonatal test positivity. These findings should alert pregnant individuals and clinicians to implement all the recommended COVID-19 preventive measures strictly.	COVID-19 in pregnancy was associated with consistent and substantial increases in severe maternal morbidity and mortality and neonatal complications when pregnant women with and without COVID-19 diagnosis were compared. These findings should alert pregnant individuals and clinicians to implement all the recommended COVID-19 preventive measures strictly.	INTERCOVID Multinational Cohort Study [published online ahead of print, 2021 Apr 22]. JAMA Pediatr. 2021;10.1001/jamapediatrics.2021.1050. doi:10.1001/jamapediatrics.2021.1050
COVID-19; pregnancy; neonate; vertical transmission	22-Apr-21	Vertical transmission of Severe Acute Respiratory Syndrome Coronavirus 2: A scoping review	PLoS One	Review	This review summarized emerging evidence on the vertical transmission of SARS-CoV-2. The authors conducted a systematic search in PubMed, CINAHL, Web of Science, SCOPUS, and CENTRAL. Likewise, a search for preprint publications was conducted using medRxiv and Research Square. Studies published between December 2019-September 2020 that addressed vertical transmission of SARS-CoV-2 in pregnant women infected by SARS-CoV-2 in any setting (community, hospital, or home) and in any country or context were considered for inclusion. 51 studies reporting 336 neonates screened for COVID-19 were identified. Only 15 (4.4%) of these were positive for SARS-CoV-2 via throat swab RT-PCR. All neonates with positive throat swab RT-PCR were delivered by C-section. Among neonates with positive throat swabs, only 5 (33.3%) had concomitant "intra-uterine tissue" tested (placenta, amniotic fluid, and/or cord blood), of which only one amniotic fluid sample was positive for RT-PCR. 5 neonates had elevated IgG and IgM, but without intra-uterine tissue tested. 4 PCR-positive neonates had chest imaging suggestive of COVID-19 pneumonia. The findings suggest that currently there is not enough evidence on vertical virologic transmission of COVID-19 during the third trimester of pregnancy. Additionally, there is no evidence to support prophylactic C-sections, abstaining from breast-feeding, nor mother/infant separation.	This review summarized emerging evidence on the vertical transmission of SARS-CoV-2. The findings suggest that currently there is not enough evidence on vertical virologic transmission of COVID-19 infection during the third trimester of pregnancy. Additionally, there is no evidence to support prophylactic C-sections, abstaining from breast-feeding, nor mother and infant separation.	Tolu LB, Ezeh A, Feyissa GT. Vertical transmission of Severe Acute Respiratory Syndrome Coronavirus 2: A scoping review. PLoS One. 2021;16(4):e0250196. doi:10.1371/journal.pone.0250196.
SARS-CoV-2 infection; infant; *M. tuberculosis;* failure to thrive; preventive pediatrics	21-Apr-21	Fatal SARS-CoV-2 and Mycobacterium tuberculosis coinfection in an infant: insights from Botswana [Free access to abstract only]	British Medical Journal (BMJ) Case Reports	Case Report	In this case presentation, the authors describe a 3-month-old male, presenting with fever, respiratory distress and failure to thrive in a medical facility in Botswana. The patient was a full-term male born via normal spontaneous vaginal delivery; however, his mother experienced intermittent fever, cough and weight loss during her third trimester of pregnancy. The patient received his normal 2-month childhood vaccines and was exclusively breastfed; however, at 3-months-old, he had not gained weight appropriately. On presentation to care, the infant displayed respiratory distress, tachypnea and hypoxemia. Chest imaging revealed significant bilateral infiltrates, perihilar opacities, left sided consolidation and bilateral	The authors described a 3-month-old male, presenting with fever, respiratory distress and failure to thrive in a medical facility in Botswana. The authors suggest that this case involving co-infection with M. tuberculosis and SARS-CoV-2 infection in an infant, highlights both the need for further study regarding potential	Mulale UK, Kashamba T, Strysko J, Kyokunda LT. Fatal SARS-CoV-2 and Mycobacterium tuberculosis coinfection in an infant: insights from Botswana. BMJ Case Rep. 2021;14(4):e239701.

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					hyperinflation. In both the patient and his mother, nucleic acid amplification revealed rifampin-sensitive M. tuberculosis (TB) and naso- and oropharyngeal samples were positive for SARS-CoV-2 infection on real-time PCR. On admission, the patient received supplemental oxygen and empiric antibiotics; on day 4 of admission, he began rifampicin, isoniazid, pyrazinamide and ethambutol. On day 5 of hospitalization, the patient was febrile and tachycardia. He later experienced cardiac arrest and died. Autopsy revealed disseminated TB, necrotizing granulomatous lesions in the lungs, and diffuse platelet-fibrin microthrombi in the lungs and myocardium. The authors suggest that this case involving coinfection with M. tuberculosis and SARS-CoV-2 infection in an infant, highlights both the need for further study regarding potential pathophysiologic synergy, and the need for greater public health efforts in tuberculosis-endemic areas.	pathophysiologic synergy, and the need for greater public health efforts in tuberculosis-endemic areas.	Published 2021 Apr 21. doi:10.1136/bcr-2020-239701
COVID-19; nutrition; public health	21-Apr-21	Impact of COVID-19 on household food insecurity and interlinkages with child feeding practices and coping strategies in Uttar Pradesh, India: a longitudinal community-based study	British Medical Journal (BMJ) Open	Original Research	The COVID-19 pandemic has profound negative impacts on people's lives, but little is known on its effect on household food insecurity (HFI) in poor resource settings. This longitudinal study conducted December 2019 (in-person) and August 2020 (by phone) across 2 districts in Uttar Pradesh, India assessed changes in HFI during the pandemic among 569 mothers with children <2 years and examined the interlinkages between HFI with child feeding practices and coping strategies. Mothers had an average age of 25.5 years [range not reported], with infants ranging from 0-5.9 months old (average age 3 months). HFI increased sharply from 21% in December 2019 to 80% in August 2020, with 62% of households changing from food secure to insecure over this period. After controlling for child age, sex, breastfeeding status, mother's age, education, caste, religion, number of children <5 years, and household income, children in newly or consistently food-insecure households were less likely to consume a diverse diet (adjusted (A)OR 0.57, 95% CI 0.34-0.95 and AOR 0.51, 95% CI 0.23-1.12, respectively) compared with those in food-secure households. Households with consistent food insecurity were more likely to engage in coping strategies such as reducing other essential non-food expenditures (AOR 2.2, 95% CI 1.09-4.24), borrowing money to buy food (AOR 4.3, 95% CI 2.31-7.95) or selling jewelry (AOR 5.0, 95% CI 1.74-14.27) to obtain foods. Similar findings were observed for newly food-insecure households. These findings highlight the need for further investment in targeted social protection strategies and safety nets as part of multisectoral solutions to improve HFI during and after COVID-19.	This longitudinal study in India assessed changes in household food insecurity (HFI) during the pandemic among 569 mothers with children <2 years and identified associated coping strategies. HFI increased from 21% in December 2019 to 80% in August 2020, with 62% of households changing from food secure to insecure over this period. These findings highlight the need for targeted social protection strategies to improve HFI among mothers with young children in India.	Nguyen PH, Kachwaha S, Pant A, et al. Impact of COVID-19 on household food insecurity and interlinkages with child feeding practices and coping strategies in Uttar Pradesh, India: a longitudinal community-based study. BMJ Open. 2021;11(4):e048738. Published 2021 Apr 21. doi:10.1136/bmjopen-2021-048738
telehealth, apps, SDOH, Moms2B, disparities, pregnancy	21-Apr-21	Using Telehealth Approaches to Address Social Determinants of Health and Improve Pregnancy and Postpartum Outcomes	Clinical Obstetrics and Gynecology	Article	With a focus on US-specific resources, this article describes telehealth modalities and their application to improve the social determinants of health (SDOH) that impact pregnancy and postpartum outcomes in the context of the COVID-19 pandemic. Physicians and patients alike report satisfaction with telehealth as it improves access to education, disease monitoring, specialty care, prenatal and postpartum care. The authors provide strategies to promote equitable access to telehealth (see Table 1), arguing that telehealth modalities not only improve SDOH for pregnant and postpartum women, but that the rise of telehealth in the context if the pandemic makes telehealth access an SDOH in itself. For example, text-based postpartum	With a focus on US-specific resources, this article describes telehealth modalities and their application to improve the social determinants of health (SDOH) that impact pregnancy and postpartum outcomes in the context of the COVID-19 pandemic. The authors provide strategies to promote equitable access to	Dixon-Shambley K, Gabbe PT. Using Telehealth Approaches to Address Social Determinants of Health and Improve Pregnancy and Postpartum Outcomes [published online, 2021 Apr 21]. Clin

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		[Free Access to Abstract Only]			support has been shown to contribute to higher rates of continued and exclusive breastfeeding. Lifeline provides US patients with subsidized voice, text, internet, and video services for households up to 135% of the US federal poverty level. Patient portals can foster two-way communication, increase health literacy, and promote self-advocacy. Continued use of telehealth video conference platforms beyond the pandemic can increase access for low-income and rural patients by reducing the cost of transportation to appointments and missed time from work. They also provide examples of telehealth modalities for group-based postpartum support, mental health support, and opioid use treatment for pregnant women. Finally, they present a case study of how Moms2B, a community group program designed to improve the SDOH for underserved pregnant women, transitioned to a virtual format. As emergency authorizations during the COVID-19 pandemic have allowed telehealth to flourish, more evidence has shown how telehealth can continue to improve the SDOH for pregnant and postpartum women beyond the pandemic.	telehealth and present a case study of how Moms2B, a community group program designed to improve the SDOH for underserved pregnant women, transitioned to a virtual format.	Obstet Gynecol. 2021;10.1097/GRF.0000000000000611. doi:10.1097/GRF.0000000000000611
Vaccination, pregnancy, safety, immunization, Pfizer, Moderna, women's health	19-Apr-21	Covid-19: Pregnant women should be offered Pfizer or Moderna vaccine, says UK advisory committee	British Medical Journal (BMJ)	News	In this article, the author highlights that pregnant women should be offered the Pfizer BioNTech or Moderna COVID-19 vaccine at the same time as the rest of the population, with priority based on age and clinical risk group. The Joint Committee on Vaccination and Immunisation in the United Kingdom stated that no specific safety concerns related to pregnancy have been identified for the vaccines. Real world evidence from the United States, where 90,000 pregnant women have been vaccinated mainly with the Pfizer and Moderna vaccines, has not raised any safety concerns. While severe illness from SARS-CoV-2 is uncommon in pregnant women, those who do get symptomatic infection are 2-3X more likely to give birth prematurely. As age is still the greatest risk factor for severe illness, it is recommended that women be vaccinated along with their age or clinical risk group. Mary Ramsay, head of Immunization at Public Health England, said, "The available data on the Pfizer and Moderna vaccines provide confidence that they can be offered safely to pregnant women." Pregnant women have been advised to discuss the risks and benefits with their clinician. Those planning pregnancy, in the immediate postpartum, or breastfeeding can currently be vaccinated with any vaccine, depending on their age and clinical risk group.	In this article, the author discusses the United Kingdom's Joint Committee on Vaccination and Immunisation statements regarding COVID-19 vaccination in pregnancy. No safety concerns regarding the Pfizer and Moderna vaccines have been raised, and real world data from the USA has been reassuring. They conclude that pregnant women should be vaccinated along with their age or clinical risk group, and should discuss risks and benefits with their clinician.	Mahase E. Covid-19: Pregnant women should be offered Pfizer or Moderna vaccine, says UK advisory committee. BMJ. 2021;373:n1013. Published 2021 Apr 19. doi:10.1136/bmj.n1013
COVID-19; maternal health; placenta pathology; vertical transmission	19-Apr-21	Pregnant women with COVID-19: the placental involvement and consequences	Journal of Molecular Histology	Review	This review examined placental involvement in feto-neonatal outcomes of COVID-19 in pregnant women. They found that SARS-CoV-2 infection in pregnant women increased their risk for hospitalization, mechanical ventilation, and ICU admission, as well as their risk of maternal mortality - especially during the 2nd and 3rd trimesters. C-section was the most common mode of delivery in this review, and obstetric outcomes of COVID-19 included: anemia, preterm premature rupture of membranes, preterm labor, and multi-organ dysfunction. Differences in immune responses can lead to more severe COVID-19 during pregnancy, and the authors recommend evaluating D-dimers and fibrinogen levels in all hospitalized pregnant women with COVID-19, to avoid adverse maternal outcomes. At this time, due to a lack of information and variations in infection duration, symptoms, and immune responses, the authors were unable to make a	This review examined placental involvement in feto-neonatal outcomes of COVID-19 in pregnant women. Variation in infection duration, symptoms, and immune responses make causal links between COVID-19 and neonatal complications difficult, and the authors recommend additional research on risk factors for vertical transmission and feto-neonatal outcomes.	Aghaamoo, S., Ghods, K., Rahmanian, M. Pregnant women with COVID-19: the placental involvement and consequences. J Mol Histol (2021). https://doi.org/10.1007/s10735-021-09970-4

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					causal link between COVID-19 and neonatal complications. Most studies showed no evidence of vertical SARS-CoV-2 transmission. However, infection from mother to neonate may have occurred via close contact during breastfeeding. Many results displayed the importance of ACE2 for viral transmission via the placenta, and that placenta pathology following COVID-19 could negatively impact feto-neonatal outcomes. The authors recommend additional research on risk factors for vertical transmission and the effect of COVID-19 on feto-neonatal outcomes.		
COVID-19; neonate; perinatal care; practice guidelines; transmission	19-Apr-21	Guidance for the clinical management of infants born to mothers with suspected/confirmed COVID-19 in Singapore	Singapore Medical Journal	Guide	This guidance was created by neonatal care practitioners from 4 hospitals in Singapore, for clinicians working with neonates born to mothers with confirmed or suspected COVID-19 based on evidence available as of July 31, 2020. They advise communication between the obstetrician and neonatologist and expectant parents before delivery, dedicated delivery facilities with isolation capabilities, care for mothers with COVID-19 in single rooms, and appropriate infection control procedures during breastfeeding. In addition, rooming-in of infant and mother should be decided on a case-by-case basis, with de-isolation of infants based on virologic testing; visiting to both should be limited. Transfer of neonates between hospitals should only be performed when clinical care needs cannot be met at the referring hospital. Finally, institutions need to ensure adequate staff training for specific neonatal infection prevention and control situations. The authors conclude by noting that their guidance may change as new evidence on COVID-19 emerges.	This guidance was created by neonatal care practitioners from 4 hospitals in Singapore, for clinicians working with neonates born to mothers with confirmed or suspected COVID-19 based on evidence available as of July 31, 2020. They provide guidance on communication with patients, care of mother and infant, inter-hospital transfer, staff training, and more.	Yeo KT, Biswas A, Ho SKY, et al. Guidance for the clinical management of infants born to mothers with suspected/confirmed COVID-19 in Singapore. Singapore Med J. 2021 Apr 19. doi: 10.11622/smedj.2021045.
Pregnancy, postpartum, ICU, ARDS, labor, ECMO	19-Apr-21	Peripartum Covid-19 Pneumonia with Severe ARDS - A Case Report [Free Access to Abstract Only]	Zeitschrift fur Geburtshilfe und Neonatologie	Case Report	In this case report, the authors present a pregnant woman with SARS-CoV-2 at term. A 38 year-old presented at 38+1 gestational weeks to a clinic in Germany with fever and cough. Laboratory results revealed elevated neutrophils, C-reactive protein (CRP), and lactate dehydrogenase (LDH). Antibiotic treatment was initiated with Sultamicillin. Influenza A/B and SARS-CoV-2 screenings were conducted and the patient went into labor. During the second stage of labor, maternal oxygen saturation was 92%. Due to failure to progress, the newborn was delivered via ventouse (vacuum). Postpartum, the mother was isolated with symptomatic and antibiotic treatment as well as thromboprophylaxis (enoxaparin 4,000 IE daily). Maternal SARS-CoV-2 returned positive. Neonatal SARS-CoV-2 was negative. The patient pumped breast milk, which was subsequently pasteurized. SARS-CoV-2 testing of the breast milk did not detect any virus. 8 days postpartum the mother's condition worsened rapidly and she developed acute respiratory distress syndrome requiring ICU admission, endotracheal intubation and ventilation. Echocardiogram showed slight pericardial effusion and chest radiograph showed consolidation. With refractory hypoxia, the interdisciplinary team initiated veno-venous extracorporeal membrane oxygenation (VV ECMO). Proning was performed for 7 days and after 71 days in the ICU, the patient was successfully transferred to a rehabilitation unit. The authors conclude that close maternal and fetal surveillance during labor, delivery, and the postpartum period is necessary for optimal patient care in peripartum COVID-19 cases.	In this case report, the authors present a pregnant woman with SARS-CoV-2 at term in Germany. The mother was isolated from the neonate after vacuum delivery and SARS-CoV-2 testing of pumped breast milk and the neonate were both negative. 8 days postpartum, the mother developed acute respiratory distress syndrome requiring ICU admission, intubation, and ultimately ECMO. After 71 days in the ICU, she was successfully transferred to rehabilitation. The authors conclude that close maternal and fetal surveillance during labor, delivery, and the postpartum period is necessary for optimal patient care in peripartum COVID-19 cases.	Maier JT, Zickler D, Metz M, et al. Peripartum Covid-19 Pneumonia with Severe ARDS - A Case Report. Z Geburtshilfe Neonatol. 2021;225(2):183-187. doi:10.1055/a-1365-9262

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Breastfeeding; COVID-19; Coronavirus; Home confinement; Lockdown; Mother-infant dyad; Neonatal; Pandemic	17-Apr-21	Impact of COVID-19 pandemic lockdown on exclusive breastfeeding in non-infected mothers	International Breastfeeding Journal	Research Article	The COVID-19 pandemic has posed several challenges to the provision of newborn nutrition and care interventions including maternal support, breastfeeding and family participatory care. This study aimed to examine the impact of COVID-19 lockdowns on exclusive breastfeeding in non-infected mothers. 204 mother-infant dyads at a single site in Italy were enrolled during lockdown (9 March to 8 May 2020) and compared to previously studied 306 mother-infant dyads admitted in 2018. To reduce the possible effect of confounding factors on exclusive breastfeeding, a 1:1 matching was performed that paired 173 mother-infant dyads (mean age 33 ± 5 years; ranges not reported). Feeding modality was collected at discharge, 30, and 90 days of life. Significantly fewer infants were exclusively breastfed during lockdown at discharge (69.4% vs 97.7%; p<0.001), at 30 days (54.3% vs 76.3%; p<0.001), and at 90 days (31.8% vs 70.5%; p<0.001). The proportion of breastfeeding remaining exclusive from discharge to 30-day was similar between groups (about 80%), but was lower in the lockdown group than in the control cohort (58.5% vs 92.4%, p < 0.001) from 30- to 90-days. The authors argue that differences between study groups in exclusive breastfeeding confirm that the hospital stay period is crucial in continuing exclusive breastfeeding at least for the first 30 days, but no longer relevant at 90 days of life.	This study examined the impact of COVID-19 lockdowns on exclusive breastfeeding in non-infected mothers by comparing exclusive breastfeeding rates among mother-infant dyads in Italy during lockdown compared to a cohort from 2018. Results showed significantly fewer infants were exclusively breastfed during lockdown at discharge, 30 days, and at 90 days of life. The authors conclude that the hospital stay period is crucial in continuing exclusive breastfeeding at least for the first 30 days of life.	Latorre G, Martinelli D, Guida P, Masi E, De Benedictis R, Maggio L. Impact of COVID-19 pandemic lockdown on exclusive breastfeeding in non-infected mothers. Int Breastfeed J. 2021;16(1):36. Published 2021 Apr 17. doi:10.1186/s13006-021-00382-4
COVID-19; pregnancy; breast-feeding; child-bearing; vaccination	15-Apr-21	Appropriateness for SARS-CoV-2 vaccination for otolaryngologist and head and neck surgeons in case of pregnancy, breastfeeding, or childbearing potential: Yo-IFOS and CEORL-HNS joint clinical consensus statement	European Archives of Oto-Rhino-Laryngology	Article	This clinical consensus statement aimed to offer guidance for COVID-19 vaccination of pregnant, breastfeeding, or childbearing healthcare personnel working in high-risk specialties, such as otolaryngology. A multidisciplinary, international panel of 33 specialists judged statements through a two-round modified Delphi method survey. Statements were designed to encompass the following topics: risk of SARS-CoV-2 infection and use of PPE in otolaryngology, SARS-CoV-2 infection and COVID-19 vaccines and respective risks for the mother/child dyad, and counseling for COVID-19 vaccination in pregnant, breastfeeding, or fertile healthcare workers. According to the statements with strong consensus, otorhinolaryngologists and head and neck surgeons who are pregnant, breastfeeding, or with childbearing potential should have the opportunity to receive COVID-19 vaccination, provided they receive up-to-date information. Those who decline vaccination should be strongly encouraged to keep in mind prevention measures such as hand washing, physical distancing, mask-wearing, and other PPE. Moreover, PPE should still be used even after the COVID-19 vaccination.	This clinical consensus statement aimed to offer guidance for SARS-CoV-2 vaccination to pregnant, breastfeeding, or childbearing healthcare personnel working in high-risk specialties, such as otolaryngology. Otorhinolaryngologists and head and neck surgeons who are pregnant, breastfeeding, or with childbearing potential should have the opportunity to receive COVID-19 vaccination and continue to use PPE even after vaccination.	Saibene AM, Allevi F, Ayad T, Baudoin T, et al. Appropriateness for SARS-CoV-2 vaccination for otolaryngologist and head and neck surgeons in case of pregnancy, breastfeeding, or childbearing potential: Yo-IFOS and CEORL-HNS joint clinical consensus statement. Eur Arch Otorhinolaryngol. 2021:1-9. doi:10.1007/s00405-021-06794-6.
COVID-19; economic policy; women; children; gender inequities	14-Apr-21	Health of women and children is central to covid-19 recovery	British Medical Journal (BMJ)	Analysis	In this analysis, the authors examine the scientific, rights-based, and economic rationale for post-pandemic investment in the health and wellbeing of women and children. Research has shown that both the parents' nutrition and a child's early life experiences/exposures play a role in establishing risks of non-communicable diseases (NCD). For example, preterm birth, or children born to a mother who is underweight, overweight or has diabetes, are at 1.5-6 times greater risk for developing NCD. Additionally, children born in areas deprived of resources have increased risk	The authors examined the scientific, rights-based, and economic rationale for post-pandemic investment in the health and wellbeing of women and children. The authors suggest that putting women and children first fulfills three policy prerequisites	Modi N, Hanson M. Health of women and children is central to covid-19 recovery. BMJ. 2021;373:n899. Published 2021 Apr

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					of speech and language problems as compared to children born in affluent areas. The COVID-19 pandemic has further raised the issue of inequities on many levels including gender, age, and ethnicity. For example, the effects on black and minority ethnic communities have been discussed. Widening gender-based inequities have also been identified and include the need to protect vulnerable women. Despite previous recognition of the importance of including pregnant and breastfeeding women in research, initial COVID-19 vaccine trials excluded these groups. During the lockdown, women carried a greater burden of home-schooling, childcare, breastfeeding, and parenting, which are determinants of long-term health and wellbeing. Some organizations suggest that economic progress should be measured using a sociodemographic index, which relates to healthy life expectancy, rather than GDP. The authors suggest that putting women and children first fulfills three policy prerequisites including strong scientific evidence for causal relationships between maternal/child health and population health, powerful rights-based justifications to end age and gender-based inequities and the clear importance of population health to the economy.	including strong scientific evidence for causal relationships between maternal/child health and population health, powerful rights-based justifications to end age and gender-based inequities and the clear importance of population health to the economy.	14. doi:10.1136/bmj.n899
COVID-19; pediatric; emergency department; United States	14-Apr-21	A Case Series of SARS-CoV-2 RT-PCR-Positive Hospitalized Infants 60 Days of Age or Younger From 2 New York City Pediatric Emergency Departments	Clinical Pediatrics	Case Series	The authors described a case series of 8 hospitalized infants aged ≤60 days with SARS-CoV-2 infection at 2 community-based pediatric emergency departments in the United States between 15 March-15 April 2020. Median age was 42 days; 75% were male. All infants were healthy and born at term, except for 1 patient with premature birth, multi-cystic dysplastic kidney, and a repaired imperforate anus. All infants had a fever, except for 1 patient who was evaluated for sepsis due to lethargy and poor feeding. Other presenting symptoms were cough, congestion, lethargy, vomiting, diarrhea, or reduced oral intake. Upper respiratory symptoms were found in 62% of infants, although none had respiratory distress or required oxygen therapy during their stay. Laboratory testing was unremarkable except for lymphopenia in 25% of infants. In addition to SARS-CoV-2, 1 infant tested positive for rhinovirus/enterovirus, and another had a concurrent Escherichia coli urinary tract infection. Chest X-rays were unremarkable, except for 1 patient who had peri-bronchial thickening without focal consolidations. Patients were discharged after 48 hours of IV antibiotics and negative cultures, except for 1 patient who was hospitalized an additional 2 days for IV antibiotics, due to a concurrent urinary tract infection. The case series highlights a mild disease course in infants with SARS-CoV-2.	The authors described a case series of 8 hospitalized infants aged ≤60 days with SARS-CoV-2 infection at 2 community-based pediatric emergency departments in the United States between 15 March-15 April 2020. The case series highlights a mild disease course in infants with SARS-CoV-2.	Hassoun A, Dahan N, Kelly C. A Case Series of SARS-CoV-2 RT-PCR-Positive Hospitalized Infants 60 Days of Age or Younger From 2 New York City Pediatric Emergency Departments. Clin Pediatr (Phila). 2021;60(4-5):247-251. doi:10.1177/00099228211006688.
COVID-19; child nutrition; intervention; nutrition education; undernutrition	13-Apr-21	The risk to child nutrition during and after COVID-19 pandemic: what to expect and how to respond	Public Health Nutrition	Review	This review summarizes areas of concern for child nutrition during and after the COVID-19 pandemic and proposes strategic responses to reduce child undernutrition. A recent study projected an increased prevalence of wasting in children <5 years by 10-50% and an additional 40,000-2,000,000 child deaths due to the indirect effects of COVID-19. The COVID-19 pandemic has particularly affected regions of South Asia and sub-Saharan Africa with an ongoing burden of child undernutrition. Contributing factors include economic downturn, food insecurity, and disruption to community-based detection and management of malnutrition. The authors propose 5 strategic responses to reduce child undernutrition during and after the COVID-19 pandemic. These responses include 1) strengthening access to community-	This review summarizes areas of concern for child nutrition during and after the COVID-19 pandemic, with a focus on children <5 years old, and proposes strategic responses to reduce child undernutrition. These responses include strengthening community-based nutrition services, supporting nutrition education for pregnant and lactating mothers,	Ntambara J, Chu M. The risk to child nutrition during and after COVID-19 pandemic: what to expect and how to respond [published online, 2021 Apr 13]. Public Health Nutr. 2021;1-18.

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					based nutrition services that support the early detection and treatment of undernourished children and emergency food distribution; 2) supporting community nutrition education, counseling, and promotion focused on pregnancy, exclusive breastfeeding, complementary feeding, and hygienic practices; 3) investing in food systems and agriculture partners to increase access to healthy and diverse diets; 4) reactivating early detection and treatment of child malnutrition; and 5) engaging with caregivers and lactating mothers to promote hygiene practices, mask-wearing, and physical distancing to prevent SARS-CoV-2 infection in malnourished children <5 years old.	investing in food systems, strengthening early detection programs, and promoting IPC measures to prevent SARS-CoV-2 infection in malnourished children.	doi:10.1017/S1368980021001610
breastfeeding; SARS-CoV-2; vaccination; antibodies; neonatal immunity	13-Apr-21	Safety of Breastfeeding by Mothers With COVID-19: New Evidence From Israel [Free Access to Abstract Only]	Pediatrics	Commentary	The WHO recommends skin-to-skin contact with breastfeeding within 1 hour of birth, exclusive breastfeeding for 6 months, and continued breastfeeding with appropriate complementary foods for up to 2 years and beyond. However, there have been questions regarding SARS-CoV-2 transmission from mother to infant through breastmilk. Based on available evidence, the WHO recommends that mothers with suspected or confirmed COVID-19 be encouraged to initiate or continue breastfeeding their infants. The authors cite evidence supporting these recommendations. A case series of 53 women with SARS-CoV-2 infection and their 55 infants in Israel [most were breastfed; proportion not reported] found no evidence of neonatal SARS-CoV-2 infection at delivery or 2 and 3 weeks post-delivery. A meta-analysis reported a 9% incidence of vertical transmission among 200 infants. However, the authors also cite evidence of transplacental transfer of SARS-CoV-2-specific antibodies, particularly in cases of maternal infection before the 3rd trimester. SARS-CoV-2–specific antibodies have also been detected in the breast milk of infected lactating women, lending additional support for continued breastfeeding. However, given evidence that maternal antibodies may interfere with rotavirus and pertussis vaccine efficacy in infants, the authors call for more research to better understand the dynamics of SARS-CoV-2 immune responses in maternal-infant dyads.	The authors cite evidence supporting WHO recommendations that mothers with suspected or confirmed COVID-19 be encouraged to initiate or continue breastfeeding. While the incidence of vertical transmission of SARS-CoV-2 has been estimated at 9%, there remains no evidence that transmission occurs via breastmilk. Furthermore, SARS-CoV-2 specific antibodies have been detected in the breast milk of infected women, lending additional support for continued breastfeeding.	Fouda GGA, Kwiek JJ, Yotebieng M. Safety of Breastfeeding by Mothers With COVID-19: New Evidence From Israel [published online, 2021 Apr 13]. Pediatrics. 2021;e2020049772. doi:10.1542/peds.2020-049772
COVID-19; breast-feeding; neonate; maternal; Israel	13-Apr-21	Neonatal SARS-CoV-2 Infections in Breastfeeding Mothers	Pediatrics	Article	The authors assessed infection rates pre-discharge and post-discharge in breast milk-fed neonates with SARS-CoV-2-positive mothers in Israel, who were separated post-delivery from their mothers and discharged from the hospital. The study period was 5 March-30 May 2020. Nasopharyngeal swabs for SARS-CoV-2 were obtained from symptomatic and high-risk women in the delivery room. Mothers with positive SARS-CoV-2 test results were separated from the neonates. Neonates were screened within 48 hours of delivery, and anti-infectious guidelines were imparted to the mothers before discharge. Re-screening took place ≥14 days post-discharge. Of the 53 mothers (mean age=29.7 ± 7.3 years, range=20-44 years) included in the study, 74.5% expressed breast milk during the initial mother-infant separation period, which in most cases lasted 2-3 days; this breast milk was fed unpasteurized to the associated neonates during separation until discharge. All 55 neonates (mean gestational age =39 ± 1 weeks, range 31 1/7 – 41 1/7 weeks; 54.5% male) tested negative for SARS-CoV-2 post-delivery. 89% of the neonates were discharged from the hospital with their mothers. In 40% of the households, there were additional SARS-CoV-2-	The authors assessed infection rates pre-discharge and post-discharge in breast milk-fed neonates with SARS-CoV-2-positive mothers in Israel, who were separated post-delivery from their mothers and discharged from the hospital. No infections were identified in neonates pre-discharge or post-discharge. These findings support the safety of breast milk, with appropriate precautions, during the COVID-19 pandemic.	Shlomai NO, Kasirer Y, Strauss T, et al. Neonatal SARS-CoV-2 Infections in Breastfeeding Mothers. Pediatrics. 2021:e2020010918. doi:10.1542/peds.2020-010918.

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					positive residents. A total of 85% of the newborns were breast-fed post-discharge. Results for all 60% of the neonates re-tested for SARS-CoV-2 post-discharge were negative. These findings support the safety of breast milk, with appropriate precautions, during the COVID-19 pandemic.		
COVID-19; perinatal infection; IgG, IgM; seroconversion;	13-Apr-21	Dynamic changes of acquired maternal SARS-CoV-2 IgG in infants	Scientific Reports	Research	In this study, the authors aim to describe the serodynamic results of pregnant women with SARS-CoV-2 infection and their infants delivered in a hospital in Wuhan, China. Between January 27 and May 10, 2020, 26 pregnant women with RT-PCR confirmed SARS-CoV-2 infection and their 27 infants were tested for IgM and IgG antibodies against SARS-CoV-2. All infants were negative for SARS-CoV-2 infection at birth. The age range of mothers was 22–41 years, and the range of gestational age at admission was 316+ to 411+ weeks. All infants were separated from their mothers immediately and were not breastfed before SARS-CoV-2 antibodies testing. 11 of the pregnant women underwent serology testing 1-8 days prior to delivery (at a median time of 64.5 days (36–81 days) from infection to antibody detection); all were IgG positive (11/11, 100%) and 63.6% (7/11) cases were IgM positive. The 11 infants of these mothers were tested for antibodies 1–2 days after birth; the IgG was positive in 9 (9/11, 81.8%) of these infants. The remaining 15 mothers were tested for SARS-CoV-2 antibodies after delivery and among them, 40% (6/15) were IgM positive, and 66.7% (10/15) were IgG positive; the median time from infection to antibody testing was 64.5 days (36–81 days). Of their 16 infants, only 2 cases (12.5%, 2/16) were IgG positive. The authors suggest that the infection time and antibody titers of mothers before delivery may affect the acquisition of maternal IgG in their infants and further, that the duration of passive immunity may be short-lived.	The authors described the serodynamic results of pregnant women with SARS-CoV-2 infection and their infants delivered in a hospital in Wuhan, China. The authors suggest that the infection time and antibody titers of mothers before delivery may affect the acquisition of maternal IgG in their infants and further, that the duration of passive immunity may be short-lived.	Wang X, Yang P, Zheng J, et al. Dynamic changes of acquired maternal SARS-CoV-2 IgG in infants. Sci Rep. 2021;11(1):8021. Published 2021 Apr 13. doi:10.1038/s41598-021-87535-x
COVID-19, SARS-CoV-2, Vaccines, Vaccinations, Milk, Human Milk, Mothers, Infants, Healthcare workers	13-Apr-21	Detection of SARS-CoV-2 Specific IgA in the Human Milk of COVID-19 Vaccinated, Lactating Health Care Workers	medRxiv	Preprint (Not Peer-Reviewed)	The aim of this prospective observational study was to determine whether SARS-CoV-2-specific immunoglobulins are found in human milk after COVID-19 vaccination, and to characterize the types of immunoglobulins that are present. The study was conducted at Shands Hospital, University of Florida from December 2020 to March 2021. 22 lactating healthcare workers who received the SARS-CoV-2 mRNA vaccine (either Pfizer/BioNtech or Moderna) made up the sample group. Plasma and human milk were collected at 3 different times (pre-vaccination, post-first vaccine dose, and post-second vaccine dose). SARS-CoV-2-specific IgA and IgG in human milk and in plasma were measured by ELISA. The results showed that SARS-CoV-2 IgA and IgG significantly increased in human milk ($p<0.0001$ for IgA and $p=0.0002$ for IgG) from time period 1 (pre-vaccination) to time period 3 (7-10 days after second vaccination dose). In conclusion, the results show that the mRNA-based COVID-19 vaccines induce SARS-CoV-2 specific IgA and IgG secretion in human milk.	The aim of this prospective observational study was to determine whether SARS-CoV-2-specific immunoglobulins are found in human milk after COVID-19 vaccination, and to characterize the types of immunoglobulins that are present. The results showed that SARS-CoV-2 IgA and IgG significantly increased in human milk ($p<0.0001$ for IgA and $p=0.0002$ for IgG) from time period 1 (pre-vaccination) to time period 3 (7-10 days after second vaccination dose). The study concluded that the mRNA-based COVID-19 vaccines induce SARS-CoV-2 specific IgA and IgG secretion in human milk.	Valcarce V, Stafford LS, Neu J, et al. Detection of SARS-CoV-2 specific IgA in the human milk of COVID-19 vaccinated, lactating health care workers. 2021. doi: 10.1101/2021.04.02.21254642.

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Breast feeding, breast milk, antibodies, vaccination, pregnancy	12-Apr-21	SARS-CoV-2-Specific Antibodies in Breast Milk After COVID-19 Vaccination of Breastfeeding Women	Journal of the American Medical Association (JAMA)	Research Letter	In this prospective cohort study, the authors investigated whether maternal immunization results in secretion of SARS-CoV-2 antibodies into breast milk. 84 breastfeeding women were recruited in Israel from December 23, 2020-January 15, 2021 (mean age 34 years, range not provided). All participants received 2 doses of the Pfizer-BioNTech vaccine 21 days apart. Breast milk samples were collected before administration of the vaccine and then once weekly for 6 weeks starting at week 2 after the first dose (for a total of 504 breast milk samples). IgG and IgA levels were detected using serological assays. Mean levels of anti–SARS-CoV-2-specific IgA antibodies in the breast milk increased rapidly and were significantly elevated at 2 weeks after the first vaccine ($p < 0.001$), when 61.8% of samples tested positive, increasing to 86.1% at week 4. IgA levels remained elevated for the duration of follow-up. Anti–SARS-CoV-2-specific IgG antibodies remained low for the first 3 weeks, with an increase at week 4 ($p = 0.004$), when 91.7% of samples tested positive, increasing to 97% at weeks 5 and 6. No mother or infant experienced any serious adverse event. The authors conclude that there was robust secretion of SARS-CoV-2 specific IgA and IgG antibodies in breast milk for 6 weeks after maternal vaccination.	In this study, the authors assessed breast milk samples from 84 breastfeeding women for SARS-CoV-2 IgA and IgG antibodies before and up to 6 weeks after vaccination with the Pfizer-BioNTech vaccine. They found that IgA levels were significantly elevated at 2 weeks after the first dose and remained elevated, while IgG levels were significantly elevated by week 4 (one week after second dose) and remained elevated. The authors conclude that there was robust secretion of SARS-CoV-2 specific IgA and IgG antibodies in breast milk for 6 weeks after maternal vaccination.	Perl SH, Uzan-Yulzari A, Klainer H, et al. SARS-CoV-2-Specific Antibodies in Breast Milk After COVID-19 Vaccination of Breastfeeding Women. JAMA. 2021; doi:10.1001/jama.2021.5782
COVID-19; breast-feeding; convalescent antibodies; passive immunity; United States	9-Apr-21	Comparison of Severe Acute Respiratory Syndrome Coronavirus 2-Specific Antibodies' Binding Capacity Between Human Milk and Serum from Coronavirus Disease 2019-Recovered Women [Free Access to Abstract Only]	Breastfeeding Medicine	Original Research	The authors compared the binding capacity of antibodies specific to the receptor-binding domain (RBD) of SARS-CoV-2 between human milk and serum from COVID-19-recovered women to determine whether human milk can be used as oral antibody therapy. The areas under the curve (AUCs) for IgA, IgM, and IgG specific to the SARS-CoV-2 RBD in human milk and serum samples were measured using enzyme-linked immunosorbent assay. Milk samples were collected from 12 COVID-19-recovered women (mean age=32 ± 4 years, age range=26-40 years; SARS-CoV-2 infection between March 28 - October 13, 2020, mean elapsed time from infection to sample collection=3 ± 2 months). Then, serum samples were collected from 10 COVID-19-recovered women (mean age=32 ± 8 years, age range=22-46 years; SARS-CoV-2 infection between March 28 - May 8, 2020, mean elapsed time from infection to sample collection=1.2 ± 0.4 months). The results showed that SARS-CoV-2 RBD-specific antibody titers differed between human milk and serum samples from COVID-19-recovered women. When the AUCs were not divided by the antibody concentration, SARS-CoV-2 RBD-specific IgA, IgM, and IgG levels were higher in the serum sample group than the human milk group ($p<0.001$). However, the titers of SARS-CoV-2 RBD-specific IgM (AUC/μg of IgM) and IgG (AUC/μg of IgG) were higher in human milk samples than serum samples ($p<0.05$). Furthermore, the titer of SARS-CoV-2 RBD-specific IgA (AUC/mg of IgA) was higher in the serum sample group than in the human milk group ($p<0.01$). The authors concluded that human milk antibodies specific to the RBD of SARS-CoV-2 must be purified to obtain comparable binding capacity observed with SARS-CoV-2 RBD-specific serum antibodies.	The authors compared the binding capacity of antibodies specific to the receptor-binding domain (RBD) of SARS-CoV-2 between human milk and serum from COVID-19-recovered women to determine whether human milk can be used as oral antibody therapy. The findings suggest that SARS-CoV-2 RBD-specific antibody titers differed between human milk and serum samples from COVID-19-recovered women. Human milk antibodies specific to the RBD of SARS-CoV-2 must be purified to obtain comparable binding capacity observed with SARS-CoV-2 RBD-specific serum antibodies.	Demers-Mathieu V, DaPra C, Medo E. Comparison of Severe Acute Respiratory Syndrome Coronavirus 2-Specific Antibodies' Binding Capacity Between Human Milk and Serum from Coronavirus Disease 2019-Recovered Women. Breastfeed Med. 2021. doi:10.1089/bfm.2020.0381.

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COVID-19; SARS-CoV-2; anti-inflammation; antibodies; breastfeeding; microbiome; respiratory infection; virome	7-Apr-21	Breastfeeding and COVID-19: From Nutrition to Immunity	Frontiers in Immunology	Systematic Review	Although international guidelines recommend breastfeeding by SARS-CoV-2 infected mothers, many questions persist in clinical practice regarding its safety to infants. The authors carried out a systematic review of currently available information (published up to December 31, 2020) regarding the transmissibility of SARS-CoV-2 through breast milk or during breastfeeding, as well as the protection against infection that breast milk might provide. Of 383 screened articles, 21 case reports and 7 original articles were included; articles that did not provide information on maternal/infant testing or breastfeeding practices were excluded. Overall, among 231 births from SARS-CoV-2 positive mothers, 13 neonates (5.8%) tested positive within the first 48 hours; feeding methods varied and are summarized in Table 1. Among dyads in which the mother was positive for SARS-CoV-2 infection but the infant was negative, 2 of 38 (5.2%) tested milk samples had detectable SARS-CoV-2 RNA via PCR. Among dyads in which both mother and infant were SARS-CoV-2 positive, 3 of 11 (27%) milk samples were positive but the milk was not considered the cause of infection. The authors discuss the role of breast milk in the development of the neonatal immune system and protection against infection by other respiratory viruses, with a focus on the anti-inflammatory role of antibodies, microbes, and viruses provided to the infant in breast milk. The authors conclude that breastfeeding should be encouraged to promote bonding, neonatal immunity, and a healthy microbiome, but safety measures should be in place to prevent transmission via close contact. They also recommend pregnant mothers be prioritized for receipt of COVID-19 vaccines.	The authors carried out a systematic review of currently available information (published up to December 31, 2020) regarding the transmissibility of SARS-CoV-2 through breast milk or during breastfeeding, as well as the protection against infection that breast milk might provide. The authors conclude that breastfeeding should be encouraged to promote bonding, neonatal immunity, and a healthy microbiome, but safety measures should be in place to prevent transmission via close contact. They also recommend pregnant mothers be prioritized for receipt of COVID-19 vaccines.	Vassilopoulou E, Feketea G, Koumbi L, Mesiari C, Berghea EC, Konstantinou GN. Breastfeeding and COVID-19: From Nutrition to Immunity. Front Immunol. 2021;12:661806. Published 2021 Apr 7. doi:10.3389/fimmu.2021.661806
breastfeeding; mRNA; vaccination; antibodies; breast milk	7-Apr-21	Quantification of specific antibodies against SARS-CoV-2 in breast milk of lactating women vaccinated with an mRNA vaccine	medRxiv	Preprint (not peer-reviewed)	This prospective study aimed to analyze the levels of specific SARS-CoV-2 antibodies in the breast milk of mRNA-vaccinated women across time and their correlation with serum antibody levels. This study sample included 18 lactating women aged over 18 years old who were vaccinated against SARS-CoV-2 with the Pfizer-BioNTech® COVID-19 vaccine (BNT162b2). Paired serum and breast milk samples were simultaneously taken from each participant at three timepoints after receiving the vaccine: 2 weeks after 1st dose, 2 weeks after 2nd dose, and 4 weeks after 2nd dose (Timepoints 1, 2, and 3, respectively). Levels of IgG antibodies against the spike protein (S1 subunit) were determined for each sample. The researchers collected and analyzed 52 serum and 52 breast milk samples from the participants. The median (interquartile range) IgG(S1) levels for serum–milk pairs at each timepoint were 410 (208-606) - 1.7 (0-2.9) AU/ml at Timepoint 1, 11505 (8933 - 21184) – 52.2 (34.1-113) at Timepoint 2 and 8311 (5578-17419) – 41.7 (24.8-75.3) at Timepoint 3. The Pearson's correlation coefficient between breast milk and serum IgG(S1) levels was 0.71. No major adverse reactions were observed in the participants. The authors concluded that breast milk from women vaccinated with mRNA-based Pfizer-BioNTech® vaccine contains specific anti-SARS-CoV-2 IgG(S1) antibodies, with levels increasing considerably after the second dose. Furthermore, IgG(S1) levels in breast milk are positively correlated with corresponding serum levels. These findings provide confidence in vaccinating lactating women against SARS-CoV-2.	This prospective study analyzed SARS-CoV-2 antibodies in the breast milk of mRNA-vaccinated women over time and their correlation with serum antibody levels in 18 women vaccinated with the Pfizer-BioNTech® COVID-19 vaccine. The SARS-CoV-2 antibody level in women was highest 2 weeks after the participants' 2nd dose, and IgG levels in breast milk were positively correlated with corresponding serum levels. These findings provide confidence in vaccinating lactating women against SARS-CoV-2.	Esteve-Palau E, Gonzalez-Cuevas A, Guerrero ME, et al. Quantification of specific antibodies against SARS-CoV-2 in breast milk of lactating women vaccinated with an mRNA vaccine. *medRxiv*. 2021; doi:10.1101/2021.04.04.21254819

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COVID-19; SARS-CoV-2; breastfeeding	7-Apr-21	No Evidence of Infectious SARS-CoV-2 in Human Milk: Analysis of a Cohort of 110 Lactating Women	medRxiv	Preprint (not peer-reviewed)	This cohort study in the United States examined the breast milk of women with a recently-confirmed SARS-CoV-2 infection. 65 women submitted self-collected breast milk samples for analysis between March-September 2020. 6 of these participants were hospitalized for COVID-19, 4 of whom were pregnant at the time of hospitalization. 7 women submitted one sample each with detectable SARS-CoV-2 RNA, but no RNA was detected from subsequent specimens (1-97 days after the initial sample) from these participants. The 7 samples that contained viral RNA were analyzed for subgenomic RNA (spliced RNAs produced during viral replication), but none was found. Therefore, the authors concluded there was no evidence that breast milk contained infectious SARS-CoV-2.	This cohort study in the United States examined the breast milk of women with a recently-confirmed SARS-CoV-2 infection. Although some samples were found to have viral RNA, there was no evidence that the breast milk contained infectious SARS-CoV-2.	Krogstad P, Contreras D, Ng H, et al. No Evidence of Infectious SARS-CoV-2 in Human Milk: Analysis of a Cohort of 110 Lactating Women. medRxiv. 2021. doi: https://doi.org/10.1101/2021.04.05.21254897
vaccination; pregnancy; breastfeeding; COVID-19	5-Apr-21	COVID-19 mRNA vaccines drive differential Fc-functional profiles in pregnant, lactating, and non-pregnant women	bioRxiv	Preprint (not peer-reviewed)	The fine balance of immunological tolerance to allow growth of the fetal graft and immunological changes to protect the dyad, along with other physiological and hormonal changes, may contribute to increased susceptibility to severe COVID-19 in pregnant women. Whether these changes also make pregnant women less responsive to vaccination or induce altered immune responses to vaccination remains incompletely understood. This study profiled the humoral vaccine response in a group of 84 pregnant, 31 lactating and 16 non-pregnant age-matched controls (ages 18-45 years; mean age not reported) in the US between December 17, 2020 and February 23, 2021. Individuals were sampled before vaccination, after 1st dose, and/or after 2nd dose with 1 of 2 mRNA-based COVID-19 vaccines. Vaccine-specific titers were comparable, albeit slightly lower, among pregnant and lactating women, compared to non-pregnant controls. Among pregnant women, the authors found higher antibody titers and functions in those vaccinated with the Moderna vaccine. Compromised placental transfer was observed in pregnant women who had not yet completed the 2nd dose, with improved transfer with increased time from full immunization. Robust levels of IgG and IgA were noted in breastmilk and antibody boosting from the 2nd dose resulted in high FcR-binding titers in breastmilk. After the 2nd dose, the vaccine response in lactating women was similar to that of non-pregnant women. These data point to the critical need to follow timelines for the 1st and 2nd vaccine doses in this population to ensure full immunity is attained.	This US study profiled the humoral vaccine response in pregnant, lactating, and non-pregnant controls before vaccination, after the 1st dose, and after the 2nd dose of an mRNA-based COVID-19 vaccine. Vaccine-specific titers were comparable, albeit slightly lower, among pregnant and lactating women, compared to non-pregnant controls. Placental transfer of antibodies was observed along with robust levels of IgG and IgA in breastmilk, particularly after the 2nd dose. These data point to the critical need to follow timelines for the 1st and 2nd vaccine doses in this population to ensure full immunity is attained.	Atyeo C, DeRiso EA, Davis C, et al. COVID-19 mRNA vaccines drive differential fc-functional profiles in pregnant, lactating, and non-pregnant women. bioRxiv. 2021:2021.04.04.438404. doi: 10.1101/2021.04.04.438404.
COVID-19; breast-feeding; mobile health	2-Apr-21	Mobile Health Approaches to Breastfeeding [Free Access to Abstract Only]	Clinical Obstetrics and Gynecology	Review Article	The authors reviewed prior studies on mobile Health (mHealth) in breastfeeding and highlight areas for future research in light of the COVID-19 pandemic. Mobile health interventions such as web-based/online education or smartphone applications have shown promise in increasing breastfeeding initiation and supporting breastfeeding continuation. The importance of such mHealth-based breastfeeding support has increased significantly during the pandemic as traditional in-person postpartum and lactation support becomes replaced with virtual care. However, more research is needed to confirm the efficacy of mHealth breastfeeding interventions in economically, geographically, and racially/ethnically diverse groups of women. It is important to consider that different mHealth breastfeeding interventions may be needed in different patient populations, incorporate a precision-medicine-type approach, and improve infant nutrition outcomes in distinct communities more effectively.	The authors reviewed prior studies on mobile Health (mHealth) in breastfeeding and highlight areas for future research in light of the COVID-19 pandemic. Mobile health interventions such as web-based/online education or smartphone applications have shown promise in increasing breastfeeding initiation and supporting breastfeeding continuation.	Lewkowitz AK, Cahill AG. Mobile Health Approaches to Breastfeeding. Clin Obstet Gynecol. 2021. doi:10.1097/GRF.0000000000000606.

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COVID-19; pregnancy; screening; Italy	31-Mar-21	Universal Sars-Cov-2 Screening in Pregnant Women: Experience from the Italian Epidemic Outbreak	Acta Biomed for Health Professions	Original Research	This study evaluated the practice of SARS-CoV-2 universal screening (using nasopharyngeal swab RT-PCR) in pregnant women admitted to hospital in Italy from 22 April-18 June 2020, and calculated the frequency of SARS-CoV-2 infection. 240 pregnant women were tested upon admission, of which 12 (5%) tested positive (median age for infected group=31 yrs, range=27-37 yrs). All positive cases were asymptomatic, and none developed COVID-19 symptoms or had adverse perinatal outcomes. 11 of these women were admitted at term of pregnancy for delivery, and 1 at 34+4 weeks for pre-term labor. 8 patients delivered spontaneously, while 4 had C-sections for non-COVID-19-related causes. All neonates tested negative for SARS-CoV-2. Breast-feeding and rooming-in was allowed, with caution, in every case, with the use of mask and gloves. The findings indicate high rates of asymptomatic infection in the healthcare setting, and highlight a critical need for universal screening of pregnant women.	This study evaluated the practice of SARS-CoV-2 universal screening (using nasopharyngeal swab RT-PCR) in pregnant women admitted to hospital in Italy from 22 April-18 June 2020, and calculated the frequency of SARS-CoV-2 infection. The findings indicate high rates of asymptomatic infection in the healthcare setting, and highlight a critical need for universal screening of pregnant women.	Grossi E, Agnoli B, Baldini M, et al. Universal Sars-Cov-2 Screening in Pregnant Women: Experience from the Italian Epidemic Outbreak. Acta Biomed. 2021;92(S2):e2021001. doi:10.23750/abm.v92iS2.11320.
COVID-19; pregnancy; maternal health; neonate; vertical transmission	31-Mar-21	COVID-19 in Women's Health: Epidemiology	Best Practice and Research Clinical Obstetrics and Gynaecology	Article	The authors discussed the epidemiology of COVID-19 in women's health. Pregnant women do not appear more likely to contract the virus than the general population. The majority of pregnant women who contract the virus will have mild or moderate symptoms, but some will experience severe illness requiring hospitalization, ICU admission, and mechanical ventilation. Severe illness is more common in the later stages of pregnancy and in women who are overweight or obese, > 35 years of age, from minority ethnic backgrounds, or who live with socioeconomic deprivation. Vertical transmission, if it occurs, is rare, and the course of infection in neonates is mild. Maternal infection with SARS-CoV-2 alone is not an indication for cesarean birth, formula feeding, or separation of the neonate from the mother, as the likelihood of transmission appears not to be affected by mode of birth, method of feeding, or whether the mother and neonate are cared for together. Important areas for future research include the safety and efficacy of vaccination against COVID-19 in pregnant women, persistence of symptoms in pregnant women, and care for pregnant women with long or sub-acute COVID-19.	The authors discussed the epidemiology of COVID-19 in women's health. Severe illness is more common in the later stages of pregnancy and in women who are overweight or obese, over 35 years of age, from minority ethnic backgrounds, or who live with socioeconomic deprivation. Important areas for future research include the safety and efficacy of vaccination against COVID-19 in pregnant women, persistence of symptoms in pregnant women, and care for pregnant women with long or sub-acute COVID-19.	Jardine J, Morris E. COVID-19 in Women's Health: Epidemiology. Best Pract Res Clin Obstet Gynaecol. 2021. doi:10.1016/j.bpobgyn.2021.03.010.
COVID-19; neonate; infant; Greece	31-Mar-21	Clinical characteristics of COVID-19 in neonates and young infants	European Journal of Pediatrics	Original Research	The authors reported the clinical characteristics and management of neonates and infants with SARS-CoV-2 infection between February-September 2020 at a hospital in Greece. 253 neonates and infants aged <3 months (79% male; age range=11-87 days) were tested for SARS-CoV-2, and 14 (5.5%) were found positive. 11 infants (78.5%) had at least one parent tested positive for SARS-CoV-2, and in 9 (64.2%) cases, the source of infection was the mother. In all cases, the maternal history during delivery was negative for SARS-CoV-2, and all infants were infected after delivery. Upon admission, symptoms included fever (11, 79%), rhinorrhea (n=9, 64%), cough (n=3, 21%), diarrhea (n=4, 28.5%), drowsiness (n=3, 21%), feeding difficulties (n=3, 21%), and tachypnea (n=2, 14%). 1 infant was asymptomatic. Chest X-rays were performed in 13 (92.8%) infants, and diffuse interstitial infiltration was detected in 7 of them (54%). 1 infant had extra right upper lobe consolidation. Laboratory tests revealed neutropenia (n=7, 50%), monocytosis (n=6, 42.9%), or both (n=3, 21%) but not lymphopenia. None received specific treatment for SARS-CoV-2. During	The authors reported clinical characteristics and management of 253 neonates and infants aged <3 months with SARS-CoV-2 infection between February-September 2020 at a hospital in Greece. 14 (5.5%) tested positive for SARS-CoV-2, all were discharged 2-12 days after admission in excellent condition, and 7 remained positive for SARS-CoV-2 up to 35 days from the initial diagnosis. The findings suggest that COVID-19 is mild in infants but may be associated with prolonged viral shedding.	Spoulou V, Noni M, Koukou D, et al. Clinical characteristics of COVID-19 in neonates and young infants. Eur J Pediatr. 2021:1-5. doi:10.1007/s00431-021-04042-x.

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					hospitalization, mothers stayed in the same room with their infants to enhance mother-infant bonding and continued breastfeeding. All patients were discharged 2-12 days after admission in excellent condition but still positive for SARS-CoV-2. 7 infants tested positive for SARS-CoV-2 by RT-PCR up to 35 days from the initial diagnosis. The findings suggest that COVID-19 is mild in infants but may be associated with prolonged viral shedding.		
Pregnancy, vaccination, breast milk, lactation, infant, breast feeding	31-Mar-21	Anti-SARS-CoV-2 antibodies induced in breast milk after Pfizer-BioNTech/BNT162b2 vaccination: SARS-CoV-2 antibodies in breast milk after vaccination	American Journal of Obstetrics and Gynecology	Research Letter	In this letter, the authors describe their study characterizing breast milk levels of anti-SARS-CoV-2 antibodies in 5 lactating people undergoing COVID-19 vaccination with the Pfizer-BioNTech/BNT162b2 vaccine in the USA [study dates and participant age not provided]. Participants provided frozen breast milk samples prior to, within the first 24 hours of, and weekly following vaccination. Samples were then assessed for SARS-CoV-2 RNA by quantitative RT-PCR and anti-spike immunoglobulin (Ig) G and IgA by an enzyme-linked immunosorbent assay. Anti-spike IgG and IgA levels were significantly elevated relative to pre-vaccine baseline at all time points. Anti-spike protein IgG remained sustained at a significant elevation beginning at 20 days after the first dose compared with the pre-vaccine baseline ($p<0.01$) through the final milk sample. Levels of anti-spike protein IgA were significantly elevated from baseline starting 2 weeks after the first dose through the final sample; however, individual-level data suggest a possible gradual decline in anti-spike IgA in human milk over time following the second dose. The authors conclude that given the sustained elevation of IgG/IgA levels after Pfizer-BioNTech/BNT162b2 vaccination, the vaccine may also confer protection against COVID-19 to breastfed infants.	In this letter, the authors describe their study characterizing breast milk levels of anti-SARS-CoV-2 antibodies in 5 lactating people undergoing COVID-19 vaccination with the Pfizer-BioNTech/BNT162b2 vaccine. They found that anti-spike IgG and IgA levels were significantly elevated in breast milk relative to pre-vaccine baseline at all time points after vaccination, and anti-spike protein IgG remained sustained beginning at 20 days after vaccination. The authors conclude that therefore the vaccine may also confer protection against COVID-19 to breastfed infants.	Kelly JC, Carter EB, Raghuraman N, et al. Anti-SARS-CoV-2 antibodies induced in breast milk after Pfizer-BioNTech/BNT162b2 vaccination: SARS-CoV-2 antibodies in breast milk after vaccination. Am J Obstet Gynecol. 2021;S0002-9378(21)00211-8. doi:10.1016/j.ajog.2021.03.031
Brazil; Breastfeeding; Breastfeeding guidelines; Breastfeeding practices; COVID-19; Milk bank; Public health; Skin-to-skin	31-Mar-21	The impact of coronavirus outbreak on breastfeeding guidelines among Brazilian hospitals and maternity services: a cross-sectional study	International Breastfeeding Journal	Research Article	This study analyzed whether Brazilian hospitals and maternity services promote and support breastfeeding among mothers with suspected or confirmed COVID-19. Data were collected from representatives of 24 Brazilian hospitals and maternity services between March and July 2020. The vast majority of hospitals (75%) developed their own guidelines, largely due to socio-economic differences between the regions requiring adaptation of established recommendations based on what is feasible. In delivery rooms, 98.5% of the services prohibited immediate and uninterrupted skin-to-skin contact between mothers and their infants and did not support the initiation of breastfeeding in the 1st hour of life. In the postnatal ward, 98.5% allowed breastfeeding while implementing respiratory hygiene practices to prevent transmission of SARS-CoV-2. Only 1 hospital (4.1%) recommended dyad separation. The decision to breastfeed was shared with the mother in 75% of hospitals; however, a companion was not allowed in the majority of centers (83.3%). Hospital discharge was mostly between 24 and 28 h (79.1%); discharge guidelines were not individualized. 87.5% allowed in-hospital and at-home breast pumping for feeding neonates expressed maternal milk (87.5%); however 95.8% recommended against breast milk donation. The authors conclude that in Brazil, hospitals have not followed recommendations to protect, promote, and support breastfeeding during the COVID-19 pandemic, which they consider to be caused by a lack of consistency among international guidelines.	This study analyzed whether Brazilian hospitals and maternity services promote and support breastfeeding among mothers with suspected or confirmed COVID-19. The authors conclude that in Brazil, hospitals have not followed recommendations to protect, promote, and support breastfeeding during the COVID-19 pandemic, which they consider to be caused by a lack of consistency among international guidelines.	Gonçalves-Ferri WA, Pereira-Cellini FM, Coca K, et al. The impact of coronavirus outbreak on breastfeeding guidelines among Brazilian hospitals and maternity services: a cross-sectional study. Int Breastfeed J. 2021;16(1):30. Published 2021 Mar 31. doi:10.1186/s13006-021-00377-1

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COVID-19; breastfeeding; immune response	30-Mar-21	High Levels of Interferon-Alpha Expressing Macrophages in Human Breast Milk During SARS-CoV-2 Infection: A Case Report	Breastfeeding Medicine	Case Study	This case study in the United States analyzed the immune composition of human milk before and after the subject contracted SARS-CoV-2. Samples of expressed breast milk were collected from a mother at 1 month (January 2020) and 7 months post-delivery (after confirmed COVID-19 diagnosis). Leukocytes, lymphoid, and myeloid cells from the samples were sorted and investigated. There was a notable increase in the percentage of macrophages expressing IFNα (1% to 8%). This indicates that the virus did not infect breast cells, or that the infection had progressed past the immune silencing stage. Dendritic cells had reduced IFNα expression after SARS-CoV-2 infection [no statistics given], and there was no significant difference in the leukocytes (CD45+) between samples. The authors state that the increase in macrophages expressing IFNα is most likely due to the presence of active SARS-CoV-2 infection. They conclude that their results provide evidence that infants could receive protection from SARS-CoV-2 infection from drinking milk expressed by mothers with COVID-19.	This case study in the United States analyzed the immune composition of human milk before and after the subject contracted SARS-CoV-2. The authors argue that the observed increase in IFNα+ macrophages during SARS-CoV-2 infection could provide infants with protection from the virus.	Yu JC, Khodadadi H, Salles EL et al. High Levels of Interferon-Alpha Expressing Macrophages in Human Breast Milk During SARS-CoV-2 Infection: A Case Report. Breastfeeding Medicine. 2021. doi: https://doi.org/10.1089/bfm.2020.0369
COVID-19; obstetric; pregnancy; acute respiratory distress syndrome; India	29-Mar-21	A Clinical Study on Initial Experience of COVID-19 ARDS in Obstetric Patients at a Tertiary Care Centre in India	Case Reports in Obstetrics and Gynecology	Case Series	The authors reported a case series of 4 SARS-CoV-2-positive obstetric patients who presented with severe acute respiratory distress syndrome (ARDS) in a tertiary care hospital in India. The cases included a 26-year-old female who presented with shortness of breath 5 days postpartum; a 34-year-old female at 39 weeks' gestation who presented with fever, cough and breathlessness for 5 days; a 30-year-old female at 37 weeks + 2 days of gestation with gestational hypertension who presented with breathlessness for 2 days; and a 26-year-old female at 37 weeks + 5 days' gestation with hypothyroidism who was admitted for leaking amniotic fluid, progressed to full-term vaginal delivery, and had breathing difficulty and cough on postnatal day 2. All 4 women underwent chest X-rays revealing peripheral patchy infiltrates in bilateral lungs, and had increased inflammatory markers (serum ferritin, interleukin 6, C-reactive protein, and LDH). 2 had findings consistent with COVID-19 pneumonia, while the other 2 were diagnosed with ARDS owing to pulmonary edema. All women tested positive for SARS-CoV-2 and were administered steroids from day 1 with good response. 3 had live births; 1 was a diagnosed intra-uterine death. 1 neonate (Case 1) tested positive for SARS-CoV-2, and was discharged after 7 days in a healthy condition. Vertical transmission could not be documented due to no testing of breast milk, placenta, cord blood, and amniotic fluid. These cases highlight the importance of prevention, early diagnosis, and timely management of pneumonia in pregnant females with COVID-19.	The authors reported a case series of 4 SARS-CoV-2-positive obstetric patients who presented with severe acute respiratory distress syndrome (ARDS) in a tertiary care hospital in India. These cases highlight the importance of prevention, early diagnosis, and timely management of pneumonia in pregnant females with COVID-19.	Marwah S, Kanwar R, Naghma S, et al. A Clinical Study on Initial Experience of COVID-19 ARDS in Obstetric Patients at a Tertiary Care Centre in India. Case Rep Obstet Gynecol. 2021. doi:10.1155/2021/5591041.
COVID-19; human milk bank; breastfeeding; donor human milk; pasteurization; regional network	29-Mar-21	Human milk banks in the response to COVID-19: a statement of the regional human milk bank network for Southeast Asia and beyond	International Breastfeeding Journal	Commentary	This paper reviews the COVID-19 guidelines on pregnancy, intrapartum, and postpartum care from 33 countries, including 7 in Southeast Asia, collected between March 21-April 30, 2020. Countries in Southeast Asia had inconsistent recommendations for mother-infant separation, direct breastfeeding, early initiation of breastfeeding, and skin-to-skin contact during the COVID-19 pandemic. As of December 2020, there were 35 human milk banks operating in 5 Southeast Asian countries, which are vital for providing donor human milk for vulnerable infants during the pandemic. The authors argue that WHO guidelines for the operation of human milk banks must be accelerated at this time, in order to increase coverage of milk bank	The authors review COVID-19 guidelines on pregnancy, intrapartum, and postpartum care from 7 countries in Southeast Asia, and conclude that there is an unmet need for human milk bank service in this area during the COVID-19 pandemic. They urge that the WHO guidelines for the operation of human milk banks	Olonan-Jusi, E., Zambrano, P.G., Duong, V.H. et al. Human milk banks in the response to COVID-19: a statement of the regional human milk bank network for Southeast Asia and beyond. Int Breastfeed

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					services or establish milk banks in unserved countries. They provide the following 5 recommendations. First, revisit and update guidelines that recommend separation of infants from mothers with suspected or confirmed COVID-19. Second, ensure WHO recommendations, which prioritize breastfeeding and feeding with mother's expressed milk, are followed and promoted. Third, adapt human milk bank operations to meet the needs of the COVID-19 pandemic and strengthen supply for the long-term. Fourth, document experiences and lessons learned from the current human milk bank response. Fifth, maintain active engagement with regional and global communities of milk bank leaders.	must be accelerated, and provide future recommendations.	J 16, 29 (2021). https://doi.org/10.1186/s13006-021-00376-2
family integrated care; family-centered care; SARS-CoV-2; COVID-19; neonatal; parent	26-Mar-21	Supporting parents as essential care partners in neonatal units during the SARS-CoV-2 pandemic	Acta Paediatrica	Review	The authors reviewed studies on family integrated care during the COVID-19 pandemic and how hospital policies affected families and healthcare professionals. 7 articles were identified consisting of 854 healthcare professionals, 442 parents, 364 infants within 286 neonatal units from the US, UK, China, and Italy. Changes included hospital policies affecting family access and patient care, risk of SARS-CoV-2 transmission, impact on breastfeeding, parental bonding, participation in caregiving, parental mental health, and staff stress. The authors report that prolonged parental presence was reduced, with some hospitals completely refusing parents' entry during the pandemic. There have been no reports of in-hospital transmission of SARS-CoV-2 between neonatal patients. Mothers reported a lack of support to provide skin-to-skin care or breastfeed, including not enough information on expressing breastmilk or breastfeeding support. In one UK study, 19.4% (20/103) of parents were not permitted to see their infant in the neonatal ICU (NICU). Parents reported a lack of bonding with their infants and insufficient information about their infants. Psychological impacts on parents were not assessed after the initiation of visitor restrictions, but parents reported an effect on their mental health by not being with their infant. Healthcare professionals' stress was reported as high during the pandemic due to lack of PPE, prioritization of PPE and workers to adult units, and the lack of parental involvement. The authors state that it is time to reinstate evidence-based-family-centered care in neonatal units, despite the ongoing pandemic. They provide recommendations to support parental presence during the COVID-19 pandemic, including the rooming-in of mothers and infants and both parents' ability to be with their infants in NICUs when not symptomatic for SARS-CoV-2.	The authors reviewed published studies on family integrated care implemented or restricted due to hospital policies during the COVID-19 pandemic and how they affected families and healthcare professionals. Changes identified included hospital policies affecting family access and patient care, risk of SARS-CoV-2 transmission, impact on breastfeeding, parental bonding, participation in caregiving, parental mental health, and staff stress.	van Veenendaal NR, Deierl A, Bacchini F, O'Brien K, Franck LS; International Steering Committee for Family Integrated Care. Supporting parents as essential care partners in neonatal units during the SARS-CoV-2 pandemic [published online ahead of print, 2021 Mar 26]. *Acta Paediatr*. 2021;10.1111/apa.15857. doi:10.1111/apa.15857
Antibodies, breastfeeding, breast milk, cord blood, COVID-19, vaccine, maternal immunity, mRNA, neonatal	26-Mar-21	COVID-19 Vaccine Response in Pregnant and Lactating Women: a Cohort Study	American Journal of Obstetrics and Gynecology - Maternal and Fetal Medicine	Original Research	The authors aimed to evaluate the immunogenicity and reactogenicity of COVID-19 mRNA vaccinations in pregnant and lactating women compared to non-pregnant women and natural SARS-CoV-2 infection in pregnancy. The study enrolled 131 reproductive-age vaccine recipients, including 84 pregnant women, 31 lactating women, and 16 non-pregnant women, at 2 academic medical centers in the United States. SARS-CoV-2 spike and RBD IgG, IgA, and IgM antibodies were quantified at baseline, second vaccine dose, 2-6 weeks post-second vaccine, and delivery. Umbilical cord sera titers were also assessed at delivery (n-10). Titers were compared to those of pregnant women 4-12 weeks after natural SARS-CoV-2 infection (n-37). The results showed that vaccine-induced antibody titers were equivalent in	The authors aimed to evaluate the immunogenicity and reactogenicity of COVID-19 mRNA vaccinations in pregnant and lactating women compared to non-pregnant women and natural SARS-CoV-2 infection in pregnancy. The results showed that vaccine-induced antibody titers were equivalent in pregnant and lactating compared to non-pregnant women, and all titers	Gray KJ, Bordt EA, Atyeo C, et al. COVID-19 vaccine response in pregnant and lactating women: A cohort study. Obstet Gynecol. 2021. doi: https://doi.org/10.1016/j.ajog.2021.03.023.

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immunity, pregnancy					pregnant and lactating compared to non-pregnant women (median [IQR]: 5.59 [4.68-5.89] pregnant, 5.74 [5.06-6.22] lactating, 5.62 [4.77-5.98] non-pregnant, p = 0.24). All titers were significantly higher than those induced by natural infection (p<0.0001). Vaccine-generated antibodies were present in all umbilical cord blood and breastmilk samples. Neutralizing antibody titers were lower in umbilical cord compared to maternal sera, although this finding did not achieve statistical significance (median [IQR] 104.7 [61.2-188.2] maternal sera, 52.3 [11.7-69.6] cord sera, p=0.05). The second vaccine dose increased SARS-CoV-2-specific IgG, but not IgA, in maternal blood and breastmilk. No differences were noted in reactogenicity across the groups. The authors concluded that COVID-19 mRNA vaccines generate a robust humoral immune response in pregnant and lactating women, with immunogenicity and reactogenicity similar to that observed in non-pregnant women. Vaccine-induced immune responses were significantly higher than the response to natural infection, and immune transfer to neonates occurred via placenta and breastmilk.	were significantly higher than those induced by natural infection. The authors concluded that COVID-19 mRNA vaccines generate a robust humoral immune response in pregnant and lactating women, with immunogenicity and reactogenicity similar to that observed in non-pregnant women.	
COVID-19; vaccine; antibody; lactation; breast milk	26-Mar-21	The vaccine-elicited immunoglobulin profile in milk after COVID-19 mRNA-based vaccination is IgG-dominant and lacks secretory antibodies	medRxiv	Preprint (not peer-reviewed)	The authors analyzed the antibody response in breast milk of lactating patients who had completed an mRNA-based COVID-19 vaccine regimen (n=10) at Mount Sinai Hospital, USA. Samples (obtained 1 day before dose 1, and 14 days after dose 2) were assayed for specific IgA, IgG, and secretory antibodies against the SARS-CoV-2 spike protein, and control milk samples from December 2019 were used to establish positive cut-off values for each assay. 5/6 of the IgA-positive samples exhibited positive IgA endpoint binding titers compared to a previously determined cut-off value (83%), 1 of which was high-titer (>5x the cut-off). Overall, 50% (n=5) of the post-vaccine milk samples contained spike-specific IgA exhibiting a significant endpoint binding titer. 0% of the undiluted pre-vaccine samples and 50% (n=5) of the undiluted post-vaccine samples contained spike-specific secretory antibodies, with 90% of them (n=4) binding at or above the positive cut-off. 60% (n=3) of positive samples showed significant secretory antibody endpoint binding, with no high-titer responses. Overall, 30% (n=3) of post-vaccine milk samples contained spike-specific secretory antibodies exhibiting a significant endpoint binding titer. 100% of post-vaccine and 0% of pre-vaccine samples contained spike-specific IgG. 100% of the diluted post-vaccine samples exhibited positive endpoint binding titers, with 80% (n=8) being high titer, with no differences in optical density values for milk samples from women inoculated with Pfizer and Moderna vaccines.	The authors analyzed antibodies in the breast milk of lactating patients (n=10), 14 days after their second dose of an mRNA-based COVID-19 vaccine, using positive cut-off values established using breast milk samples obtained in 2019. 10/10 samples contained significant levels of post-vaccine IgG, with 80% (n=8) having significant endpoint titers. 6/10 samples were positive for spike-specific IgA, 1 of which had a high IgA endpoint titer.	Fox A, Norris C, Amanat F, et al. The vaccine-elicited immunoglobulin profile in milk after COVID-19 mRNA-based vaccination is IgG-dominant and lacks secretory antibodies. medRxiv. January 2021. doi:10.1101/2021.03.22.21253831
COVID-19. SARS-CoV-2, SARS-CoV-2 RNA, breastfeeding, human milk, infant	24-Mar-21	Investigation of SARS-CoV-2 RNA in Milk Produced by Women with COVID-19 and Follow-Up of Their Infants: A Preliminary Study	International Journal of Clinical Practice	Article	The authors of this prospective observational study investigated the presence of SARS-CoV-2 RNA in human breastmilk samples from 15 mothers with COVID-19 and in the throat samples of their infants. All of the infants underwent clinical follow-up during their 14-day isolation period, and their throat swab samples were tested for SARS-CoV-2 RNA. The results showed that of the 15 mothers with COVID-19, SARS-CoV-2 RNA was detected in milk samples from 4 mothers. The throat swab samples from these mothers' infants were found to be positive for SARS-CoV-2 RNA. 3 of the 4 mothers were breastfeeding. In addition, during the 14-day isolation period, all but 3 of the mothers breastfed their infants. Of the 12 breastfed infants, 6 tested	The authors of this prospective observational study investigated the presence of SARS-CoV-2 RNA in human breastmilk samples from 15 mothers with COVID-19 and in the throat samples of their infants. Of the 12 breastfed infants, 6 tested positive for SARS-CoV-2 RNA in throat swab samples, suggesting that SARS-CoV-2 can be	Kilic T, Kilic S, Kırıcı Berber N, Gunduz A, Ersoy Y. Investigation of SARS-CoV-2 RNA in Milk Produced by Women with COVID-19 and Follow-Up of Their Infants: A Preliminary Study [published online,

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					negative for SARS-CoV-2 RNA in throat swab samples, while the other 6 infants, who had mild COVID-19 symptoms, tested positive for SARS-CoV-2 RNA. Clinical outcomes for all of the mothers and infants were uneventful. In conclusion, these results suggest that SARS-CoV-2 can be transmitted in human breastmilk. However, the authors believe that the benefits of breastfeeding may outweigh the risk of SARS-CoV-2 infection in infants.	transmitted in human breastmilk. However, the authors believe that the benefits of breastfeeding may outweigh the risk of SARS-CoV-2 infection in infants.	2021 Mar 24]. Int J Clin Pract. 2021;e14175. doi:10.1111/ijcp.14175
COVID-19; SARS-CoV-2; pregnancy; breastfeeding; counseling; maternity care; community health services; public health; primary health care; vaccine hesitancy	24-Mar-21	Vaccine Willingness and Impact of the COVID-19 Pandemic on Women's Perinatal Experiences and Practices—A Multinational, Cross-Sectional Study Covering the First Wave of the Pandemic	International Journal of Environmental Research and Public Health	Original Research	The authors conducted a multinational study between April 10 -July 14, 2020, to assess pregnant and breastfeeding women's (n = 16,063, n=6661 pregnant, n = 9402 breastfeeding) beliefs about SARS-CoV-2 and COVID-19 vaccine willingness and to assess the impact of the pandemic on perinatal experiences and practices. All women surveyed were over 18 years old and were pregnant or breastfeeding up to three months postpartum. Women were recruited through an online anonymous web survey. The countries where the women resided included Belgium (44%), Norway (18%), Netherlands (16%), Switzerland (11%), Ireland (10%), and United Kingdom (3%). 40-50% of respondents indicated COVID-19 vaccine hesitancy. Less than 1% of those surveyed had ever tested positive for SARS-CoV-2. 52% of those who had a previous pregnancy (n = 2044) stated that the pandemic had a significant impact on their current pregnancy experience when compared to previous pregnancy due to absence of partner during appointments, less medical follow-up, increased anxiety and stress, social isolation, less support, and being cautious when interacting with other people. 59% (n = 3844) of pregnant women and 54% of breastfeeding women (n = 4865) indicated that the COVID-19 pandemic had disrupted access to pregnancy and breastfeeding services. 54% of women agreed that a SARS-CoV-2 infection during pregnancy could affect an unborn child's development, and 86% believed this was this case with severe COVID-19. The authors suggest increased attention to maintaining access to health services during emergencies and tailoring information on COVID-19 vaccines to pregnant and breastfeeding women to support shared decision-making.	The authors conducted a multinational study between April 10 -July 14, 2020, to assess pregnant and breastfeeding women's beliefs about SARS-CoV-2 and COVID-19 vaccine willingness and assess the pandemic's impact on perinatal experiences and practices. 40-50% of respondents indicated COVID-19 vaccine hesitancy, and 59% of pregnant women ad 54% of breastfeeding women agreed that the COVID-19 pandemic had disrupted their access to health services. The authors suggest increased attention to maintaining access to health services during emergencies and tailoring information on COVID-19 vaccines to pregnant and breastfeeding women to support shared decision-making.	Ceulemans M, Foulon V, Panchaud A, et al. Vaccine Willingness and Impact of the COVID-19 Pandemic on Women's Perinatal Experiences and Practices—A Multinational, Cross-Sectional Study Covering the First Wave of the Pandemic. International Journal of Environmental Research and Public Health. 2021;18(7). doi:10.3390/ijerph18073367.
COVID-19; pregnancy; vaccination; Italy	23-Mar-21	Pregnant women perspectives on SARS-COV-2 vaccine: Condensation: Most of Italian pregnant women would not agree to get the SARS-COV-2 vaccine, irrespective of having features of high risk themselves, or being high-risk pregnancies	American Journal of Obstetrics and Gynecology - Maternal and Fetal Medicine	Article	This study evaluated attitudes toward COVID-19 vaccination in pregnant and breastfeeding women in Italy. A survey was conducted on pregnant and breastfeeding women asking their perspectives on the available vaccines after reading the recommendations issued by the national Obstetrics, Gynecology and Neonatology societies [date not specified]. 142 women (median age=34 years, IQR=31-37.25 years) were included, 83.8% of whom were pregnant and 16.2% in early post-partum period. Most of the women did not agree to receive COVID-19 vaccine during pregnancy (n=40, 28.2% vs 102, 71.8%). Being pregnant was considered a determinant factor to refuse the vaccine prophylaxis (n=99, 69.7% vs 43, 30.3%; $\chi 2$= 24.187, p<0.001), even if a very large percentage declared to be generally in favor of vaccines (n=128, 90.1% vs 14, 9.9%; $\chi 2$= 6.091, p=0.014) and most of them confirmed they received or would receive other recommended vaccines during pregnancy (n=75, 52.8% vs 67, 47.2%; $\chi 2$= 10.996, p=0.001). Among respondents who stated they would not take the COVID-19 vaccine during pregnancy, the two most frequent answers were "fear of baby's health	This study evaluated the attitude to COVID-19 vaccination in pregnant and breastfeeding women in Italy. Most women did not agree to receiving the vaccine during pregnancy. The results are the first report from a patient's point of view that reinforce the need for urgent data from vaccine trials in which women should be included to avoid the current uncertainty and denial.	Carbone L, Mappa I, Sirico A, et al. Pregnant women perspectives on SARS-COV-2 vaccine: Condensation: Most of Italian pregnant women would not agree to get the SARS-COV-2 vaccine, irrespective of having features of high risk themselves, or being high-risk pregnancies. Am J Obstet Gynecol MGM. 2021;100352.

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					consequences" in 61 (59.8%) of cases and "too short time from development to commercialization" in 41 (40.2%) of cases. These results are the first report from a patient's point of view that reinforce the need for urgent data from vaccine trials in which women should be included to avoid the current uncertainty and denial.		doi:10.1016/j.ajogmf.2021.100352.
breastfeeding; infant care; neonatal health; family-centered care	23-Mar-21	Care of hospitalized infants and their families during the COVID-19 pandemic: an international survey	Journal of Perinatology	Article	This study explored changes in family-centered care practices for hospitalized infants and families due to the COVID-19 pandemic. An online survey was distributed to health care professionals working with hospitalized infants and families May-July 2020. 96 participants responded from 22 countries, answering questions related to family presence and participation in infant care, skin-to-skin holding, breastfeeding, and psychological support. Prior to the COVID-19 pandemic, 87% of units allowed families unrestricted access to infants and 92% encouraged skin-to-skin care. During the pandemic, family presence was restricted in 83% of units and participation in infant care was restricted in 32%. Medium-sized (20-40 beds) units applied less restriction than small (<20 beds) units (p = 0.03). Units with single-family rooms that did not restrict parental presence, implemented fewer restrictions regarding parents' active participation in care (p = 0.02). 12.5% reported restricted breastfeeding practices and 12.7% reported restricted use of mother's expressed milk [conditions of restriction not elaborated]. Restrictions to families did not appear to be related to local infection rates or health care professionals' level of education on developmental care. 36% of respondents provided additional qualitative responses describing initiatives to support families during the pandemic. Respondents described interventions to foster family-infant connectedness (e.g., sharing photos and videos of the infant with the family), to enhance family-staff communication (e.g., increased briefings with parents), and to create additional resources for families in the unit (e.g., increased support from social work, additional nursing staff). The authors conclude by urging hospitals to use innovative approaches to actively engage parents in infant care during the COVID-19 pandemic.	This study surveyed health care professionals across 22 countries to explore changes in family-centered care practices for hospitalized infants and families due to the COVID-19 pandemic. During the pandemic, family presence was restricted in 83% of units and participation in infant care was restricted in 32%. 12.5% reported restricted breastfeeding practices. The authors conclude by urging hospitals to use innovative approaches to actively engage parents in infant care during the COVID-19 pandemic.	Litmanovitz I, Silberstein D, Butler S, Vittner D. Care of hospitalized infants and their families during the COVID-19 pandemic: an international survey [published online ahead of print, 2021 Mar 23]. J Perinatol. 2021;1-7. doi:10.1038/s41372-021-00960-8
COVID-19; vaccination; newborn; cord blood; maternal	22-Mar-21	Newborn antibodies to SARS-CoV-2 detected in cord blood after maternal vaccination- a case report	BioMed Central (BMC) Pediatrics	Case report	The authors present a case of a pregnant woman [no age given] receiving 1 dose of the Moderna SARS-CoV-2 vaccination at 36 weeks 3 days gestation. The mother was then tested for SARS-CoV-2 by RT-PCR upon admission for labor and delivery to the hospital and was negative. A spontaneous vaginal delivery occurred without complications 3 weeks after the first dose of the Moderna vaccine. A healthy full-term female newborn was delivered at 39 weeks 3 days gestation. Under aseptic conditions, cord blood sampling was done before delivering the placenta, with 0.5ml drawn into a red-tube for serum to be sent for a SARS-CoV-2 antibody test. The cord blood was found to have IgG antibodies to SARS-CoV-2 at the level of 1.31U/ml. After delivery, the mother breastfed and received the 2nd dose of the Moderna vaccine at the 28-day protocol timeline. Like other vaccines, the authors state that the SARS-CoV-2 vaccine theoretically will be safe in pregnancy as other vaccines are. Further research is needed to inform the amounts of viral neutralizing antibodies in infants born to vaccinated mothers and the length of protection for infants from vaccinated mothers.	The authors present a case of a pregnant woman receiving 1 dose of the Moderna SARS-CoV-2 vaccination. After delivering a healthy infant using aseptic techniques, cord blood was sampled and tested positive for SARS-CoV-2 antibodies.	Paul G, Chad R. Newborn antibodies to SARS-CoV-2 detected in cord blood after maternal vaccination - a case report. *BMC Pediatr*. 2021;21(1):138. Published 2021 Mar 22. doi:10.1186/s12887-021-02618-y

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COVID-19; Novel coronavirus; breastfeeding; family-centered care; neonates; nosocomial infection; parental satisfaction	22-Mar-21	Family-centered care management strategies for term and near-term neonates with brief hospitalization in a level III NICU in Shenzhen, China during the time of COVID-19 pandemic	The Journal of Maternal-Fetal and Neonatal Medicine	Short Report	Adopting the family-centered care (FCC) approach in neonatal care has been shown to improve breastfeeding rates and parental satisfaction. To minimize the transmission of SARS-CoV-2, family visits in neonatal ICUs (NICUs) were suspended in China. In order to maintain the benefits of FCC, the Hong Kong University-Shenzhen Hospital NICU modified FCC strategies pertaining to triage, screening, management of suspected infections, breastfeeding promotion, and family communication. This study evaluated the effects of these new strategies by comparing the demographic and clinical data of neonates, rates of breastfeeding at discharge, nosocomial infection and parental satisfaction before (open group; December 2019-January 2020; n=144 neonates) and after (closed group; February-March 2020; n=108) the implementation of alternative FCC management strategies. The nosocomial infection rate and parental satisfaction for open and closed groups were not different (p=1.00; p=0.80, respectively). Breastfeeding rate at discharge decreased but the difference was not significant (80% open vs. 74% closed; p=0.29). Based on these results, the authors conclude that this site's alternative FCC strategies were feasible and maintained high parental satisfaction without increased nosocomial infection rate; however, additional support for breastfeeding is needed.	This study evaluated the effects of family-centered care strategies modified at a single neonatal ICU in China due to the COVID-19 by comparing the demographic and clinical data of neonates, rates of breastfeeding at discharge, nosocomial infection and parental satisfaction before and after implementation. The authors conclude that this site's alternative FCC strategies were feasible and maintained high parental satisfaction without increased nosocomial infection rate; however, additional support for breastfeeding is needed.	Yi YZ, Su T, Jia YZ, et al. Family-centered care management strategies for term and near-term neonates with brief hospitalization in a level III NICU in Shenzhen, China during the time of COVID-19 pandemic [published online, 2021 Mar 22]. J Matern Fetal Neonatal Med. 2021;1-4. doi:10.1080/14767058.2021.1902499
COVID-19; newborn; patient care team; personal protective equipment	22-Mar-21	Preparedness strategies in neonatology units during the COVID-19 pandemic: A survey conducted at maternity centers in Argentina	Archivos Argentinos de Pediatria	Original Article	The objective of this cross-sectional study was to analyze available resources, guidelines in use, and preparedness to care for infants at maternity centers in Argentina during the COVID-19 pandemic. A survey was administered to medical and nursing staff of Argentine facilities with >500 annual births (58% from the public sector) between May 24 - June 9, 2020; in total, 104/147 facilities answered (71%). All had guidelines for care during the pandemic, and 93% indicated they had been trained on their use. A companion was not allowed during childbirth in 26% of private facilities nor in 60% of public ones (p<0.01). Deferred cord clamping was recommended in 87%; rooming-in with asymptomatic newborns (in case of confirmed/suspected maternal COVID-19) was promoted in 62%; breastfeeding using protective measures was recommended in 70%; feeding expressed breast milk using a bottle was recommended in 23%; and feeding with formula was recommended in 7%. In 94%, family visiting in the Neonatology Unit was restricted. Difficulties included the lack of individual rooms for symptomatic infants and a potential shortage of health care staff and PPE. The authors conclude all facilities are aware of national guidelines to fight the pandemic and most have the resources to comply with recommended protective measures. However, there is uncertainty as to whether PPE, staff, and physical space available would be enough if cases increased significantly.	This study analyzed available resources, guidelines in use, and preparedness to care for infants at maternity centers in Argentina during the COVID-19 pandemic. The authors conclude that while all facilities are aware of national guidelines to fight the pandemic and most have the resources to comply with recommended protective measures, there is uncertainty as to whether resources would be enough if cases increased significantly.	Geffner SC, Ávila AS, Etcharrán ML, et alE. Preparedness strategies in neonatology units during the COVID-19 pandemic: A survey conducted at maternity centers in Argentina. Estrategias de preparación en unidades de neonatología durante la pandemia de COVID-19: Encuesta en maternidades de la Argentina. Arch Argent Pediatr. 2021;119(2):76-82. doi:10.5546/aap.2021.eng.76
breastfeeding; rooming in; perinatal transmission; vertical transmission; horizontal	20-Mar-21	Outcomes of Neonates Born to Mothers with Coronavirus Disease 2019 (COVID-19) - National	Indian Pediatrics	Research Paper	This prospective cohort study in India evaluated the clinical outcomes and risk factors for perinatal transmission in neonates born to mothers with perinatal SARS-CoV-2 infection confirmed by RT-PCR within 2 weeks before or 2 days after birth [date range not specified]. Among 1,713 neonates, SARS-CoV-2 infection status was available for 1,330 intramural and 104 extramural neonates (transferred to the participating hospital after birth). Among the 1,330 intramural neonates who were tested, 10.8% (n=143) were	This prospective cohort study in India evaluated the clinical outcomes and risk factors for perinatal transmission in neonates born to mothers with perinatal SARS-CoV-2 infection. The authors found a marginally higher	More K, Chawla D, Murki S, et al. Outcomes of Neonates Born to Mothers with Coronavirus Disease 2019 (COVID-19) - National Neonatology

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transmission; India		Neonatology Forum (NNF) India COVID-19 Registry			SARS-CoV-2 positive. 68 (5.1%) tested positive on day 1, 106 (8%) tested positive within 72 hours of birth (presumed perinatal transmission) and 21 (1.5%) tested positive beyond 72 hours (presumed horizontal transmission). The risk of transmission was not associated with the mode of delivery or whether the mother breastfed the infant. Neonates who roomed-in with their mother had a marginally higher transmission risk (RR 1.16, 95%CI 1.1 to 2.4; P=0.01); however, the authors attribute this finding to incomplete adherence to the suggested IPC precautions. Premature birth (<37 weeks) was more likely among SARS-CoV-2 positive neonates (20.7%) than SARS-CoV-2 negative neonates (10.2%) (RR 1.8, 95%CI 1.2-2.7; P=0.01). The majority (79%) of neonates positive for SARS-CoV2 were asymptomatic, highlighting the importance of universal testing. Amongst symptomatic neonates, most morbidities were related to prematurity and perinatal events. The authors conclude that these data confirm perinatal transmission of SARS-CoV-2. Breastfeeding and rooming-in appear to be safe in the context of maternal SARS-CoV-2 infection as long as necessary precautions are adhered to.	incidence of SARS-CoV-2 transmission among infants who roomed-in with their mothers, which the authors attribute to incomplete adherence to suggested IPC precautions. Breastfeeding and mode of delivery were not associated with increased transmission risk.	Forum (NNF) India COVID-19 Registry [published online, 2021 Mar 20]. Indian Pediatr. 2021;S097475591600300.
breastfeeding; lactation; lactation counseling; public health; social support	18-Mar-21	Breastfeeding During a Pandemic: The Influence of COVID-19 on Lactation Services in the Northeastern United States [Free Access to Abstract Only]	Journal of Human Lactation	Research Article	This study was conducted in June 2020 to determine changes to breastfeeding support services in the US during the COVID-19 pandemic according to trained lactation providers. The secondary aim was to assess the strengths and limitations of telehealth services. 39 participants completed the survey, and the majority (69.2%; n=27) were providing only telehealth services. Of the 31 providing any telehealth services who responded to telehealth questions, 58.1% (n=18) found that virtual lactation support was moderately effective compared to in-person support. However, 70% (n=26) of those conducting groups felt they were less effective compared to in-person groups. Limitations of virtual support included technical and logistical difficulties, challenges assisting with latching and accurately assessing infant growth, and difficulty reading body language. Strengths of virtual support included the flexibility and convenience of home-based support, expanded communication strategies, and safety from virus exposure. Overall, visits with a lactation professional decreased significantly during the pandemic (p<0.001). Limited in-hospital and pediatrician support was also noted, particularly among groups without access to telehealth resources. Based on these results, the authors warn that breastfeeding disparities may be further exacerbated among those without equitable access to lactation support during the COVID-19 pandemic.	This US study examined changes to breastfeeding support services during the COVID-19 pandemic according to 39 trained lactation providers. Overall, visits with a lactation professional decreased significantly during the COVID-19 pandemic. The authors warn that breastfeeding disparities may be exacerbated due to inadequate access to lactation support.	Schindler-Ruwisch J, Phillips KE. Breastfeeding During a Pandemic: The Influence of COVID-19 on Lactation Services in the Northeastern United States [published online, 2021 Mar 18]. J Hum Lact. 2021;8903344211003898. doi:10.1177/08903344211003898
COVID-19; neonates; mothers; Delivery; congenital transmission; vertical transmission	17-Mar-21	Outcomes of newborns to mothers with COVID-19	Infectious Diseases Now	Article	This study examined the medical records of 30 neonates born to women with COVID-19 between January-December 2020 in Morocco to provide information on maternal-fetal SARS-CoV-2 transmission and infant outcomes. Out of the 30 newborns, 28 had negative PCR test results for SARS-CoV-2. Among their mothers (n=30), 15 had fever, 9 had cough, 5 had anosmia, 1 had pneumonia, 2 were admitted to the ICU, and 1 died; the other 15 were asymptomatic. 20 delivered by C-section. The median birth term was 37 weeks and 2 days gestation. Most of the neonates were asymptomatic, except for 3 who presented with shortness of breath. Of the 2 infected neonates, the authors conclude that one represents a probable	This study in Morocco examined the medical records of 30 neonates born to women with COVID-19 to provide information on maternal-fetal SARS-CoV-2 transmission and infant outcomes. Out of the 30 newborns, 2 had positive RT-PCR results for SARS-CoV-2. The authors conclude that one of these	Ghema K, Lehlimi M, Toumi H, et al. Outcomes of newborns to mothers with COVID-19. Infectious Diseases Now. 2021. https://www.sciencedirect.com/science/article/pii/S266699192100

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					case of congenital SARS-CoV-2 infection. In this case, a female infant was born at 38 + 4 weeks gestation and immediately taken to the neonatal ICU without skin-to-skin contact with the mother or breastfeeding. 2 days later, the infant presented with a fever but normal leucocyte, neutrophil, platelets, D-dimer, and thoracic CT. Testing of nasopharyngeal swabs obtained 32 hours after birth resulted positive for SARS-CoV-2. The infant was treated with ceftriaxone, aminoglycoside, and azithromycin and discharged on day 6 with good outcomes. The authors conclude that in-utero SARS-CoV-2 vertical transmission is possible but occurs rarely.	cases was likely the cause of in-utero vertical transmission.	0658. doi: https://doi.org/10.1016/j.idnow.2021.03.003 .
COVID-19; SARS-CoV-2; breastfeeding; vaccination	16-Mar-21	Breastfeeding and COVID-19 Vaccine: Yes We Can [Free Access to Abstract Only]	Journal of Human Lactation	Letter to the Editor	The authors respond positively to the letter "COVID-19 Vaccines and Breastfeeding" (Saus-Ortega, 2021), arguing that it is safe for breastfeeding women to be vaccinated against COVID-19, giving their perspectives as breastfeeding mothers. They cite evidence that SARS-CoV-2 antibodies produced by the mother pass on to the milk and may provide immune protection to the infant. One of the authors contacted their local milk bank to confirm that vaccination against COVID-19 would not exclude her from donating breastmilk, as there is no evidence that the vaccine is harmful to the breastfeeding mother or infant. However, the authors provide as a supplemental file an example of a consent form for COVID-19 vaccination that states that breastfeeding is contraindicated, which the authors consider misleading as it simply reflects the fact that breastfeeding women were excluded from clinical trials. In their cases, one author chose not to disclose that she was breastfeeding to obtain her vaccine, while the other was encouraged to postpone vaccination. The authors express concern that many breastfeeding women may either be excluded from COVID-19 vaccination, choose to stop breastfeeding, or choose not to disclose their breastfeeding status, thus missing the opportunity to have their progress recorded. They conclude by urging clinicians responsible for vaccination to give breastfeeding patients updated and verified information so they can make informed decisions.	In this letter to the editor, the authors offer their perspectives as breastfeeding mothers navigating conflicting information regarding the safety of COVID-19 vaccination while breastfeeding. They urge clinicians responsible for COVID-19 vaccination to allow breastfeeding patients to make their own decisions based on current and verified information.	Mayo S, Monfort S. Breastfeeding and COVID-19 Vaccine: Yes We Can [published online, 2021 Mar 16]. J Hum Lact. 2021;8903344211004443. doi:10.1177/08903344211004443
Pregnancy; COVID-19; prenatal care; reproductive health care; perinatal mental health	16-Mar-21	The impact of COVID-19 on prenatal care in the United States: Qualitative analysis from a survey of 2519 pregnant women	Midwifery	Article	This study surveyed pregnant women to explore changes to prenatal care as a result of the COVID-19 pandemic and the impact of those changes. The survey was distributed online between April 3 - 24, 2020, with open-ended prompts, and 2,519 pregnant women from 47 US states responded, 88.4% of whom had at least one previous birth. 290 additional responses came from outside the USA, the results of which are not described in this article. Mean age was 32.7 years [range not reported], mean weeks pregnant was 24.3 weeks, and mean number of prenatal visits was 6.5. Structural changes within the healthcare system were a predominant theme reported by 2,075 respondents, including shifts to virtual visits, changes in office locations, changes to the frequency of appointments, and social distancing in clinical spaces. 429 respondents described behavioral changes among pregnant women and their providers, such as redefining "necessary vs. unnecessary" procedures and heightened self-monitoring for warning signs during pregnancy. Emotional consequences of the pandemic were reported by 503 respondents, including increased fear and anxiety, perceived lack of support, feelings of abandonment, and questioning their healthcare. Examples of	This study surveyed pregnant women to explore changes to prenatal care as a result of the COVID-19 pandemic and reports the qualitative analysis of 2,519 responses from the USA. Responses varied widely regarding perceived impact to quality of care, which the authors argue highlights the need for standardized local, state, national, and global recommendations for obstetric care during future pandemics.	Javaid S, Barringer S, Compton SD, et al. The impact of COVID-19 on prenatal care in the united states: Qualitative analysis from a survey of 2519 pregnant women. Midwifery. 2021:102991. doi: https://doi.org/10.1016/j.midw.2021.102991 .

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					impacts on quality of care included changing providers, limited appointments, and canceled breastfeeding and birthing courses without referral to alternatives. Perceived changes to quality of care varied widely, with some women perceiving their quality of care to be extremely compromised while others perceived improved quality of care due to the pandemic. These inconsistencies highlight the need for local, state, national, and global recommendations for the care of pregnant women during future pandemics.		
Children, pediatrics, transmission, schools, obesity	15-Mar-21	COVID-19 in childhood: Transmission, clinical presentation, complications and risk factors	Pediatric Pulmonology	Review	This literature review was conducted on the transmission, clinical presentation, complications, and risk factors of COVID-19 in the pediatric population [0-18 years of age]. PubMed, MedRxiv, and the Johns Hopkins "COVID-19, Maternal and Child Health, Nutrition" repository were searched from January-December 2020 [number of articles not reported]. Based on current evidence, children are rarely the primary source of secondary transmission in household or school settings. Higher transmission rates are observed in older children (10–19 years old) compared with younger children (<10 years old). While increasing incidence of COVID-19 in neonates raises the suspicion of vertical transmission, it is unlikely that breast milk is a vehicle for transmission from mother to infant. The vast majority of clinical cases of COVID-19 in children are mild, but rare cases have developed complications such as MIS-C, which often presents with severe cardiac symptoms requiring intensive care. Childhood obesity is associated with a higher risk of infection and a more severe clinical presentation. Although immediate mortality rates among children are low, long-term implications of the disease remain unknown. The authors conclude that children should remain a focus during the pandemic, given the potential for developmental implications from SARS-CoV-2.	In this literature review, the authors discuss the transmission, clinical presentation, complications, and risk factors of COVID-19 in the pediatric population. Vertical transmission may be possible, but it is unlikely that breast milk is a vehicle for transmission from mother to infant. Childhood obesity is associated with higher risk of more severe infection. Although immediate mortality rates among children are low, long-term implications of the disease remain unknown. The authors conclude that children should remain a focus, given the potential for developmental implications.	Siebach MK, Piedimonte G, Ley SH. COVID-19 in childhood: Transmission, clinical presentation, complications and risk factors. Pediatr Pulmonol. 2021; doi:10.1002/ppul.25344
COVID-19; SARS CoV-2; newborn; neonate; nursery; mother–infant dyad; breastfeeding	15-Mar-21	Management and Early Outcomes of Neonates Born to Women with SARS-CoV-2 in 16 U.S. Hospitals [Free Access to Abstract Only]	American Journal of Perinatology	Original Article	This case series describes the demographic and clinical characteristics, clinical management, and neonatal outcomes of infants born to women with SARS-CoV-2 infection. Using a structured case template, 16 US hospitals contributed 70 cases involving neonates born at ≥35 weeks of gestation to mothers who tested positive for SARS-CoV-2 via RT-PCR before delivery. 88% of women were 20-40 years old [mean ages and ranges not reported]. Birth hospitalizations were uncomplicated for 66 (94%) neonates and 4 (6%) required admission to a neonatal ICU. All who were tested for SARS-CoV-2 were negative (n=57). Outpatient follow-up data were available for 13 neonates, all of whom remained asymptomatic. Half of the 66 dyads without complications were co-located (n=33 [inconsistent with number in abstract]), while the other half were separated (n=33), and 40% were directly breastfed (n=28). The decision to separate was cited as hospital COVID-19 rooming policy for 29 dyads (mostly in the US Northeast) and due to shared decision-making between parents and providers for 4 dyads. Of the 42 infants who were not directly breastfed, 37 were exclusively fed formula or donor milk, 4 were fed a combination of expressed milk plus supplementation, and 1 was exclusively fed expressed breast milk. The authors report that clinical management was largely inconsistent with US COVID-19 guidelines. In particular, the low rates of indirect breastfeeding	In this multisite case series of 70 neonates born to women with SARS-CoV-2 infection in the US, clinical outcomes were overall good, and there were no documented neonatal SARS-CoV-2 infections. However, the low rates of indirect breastfeeding with expressed milk among separated mother-infant dyads are in conflict with recommendations to preserve breastfeeding during separation.	Congdon JL, Kair LR, Flaherman VJ, et al. Management and Early Outcomes of Neonates Born to Women with SARS-CoV-2 in 16 U.S. Hospitals [published online, 2021 Mar 15]. Am J Perinatol. 2021. doi:10.1055/s-0041-1726036

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					with expressed milk among separated mother-infant dyads are in conflict with recommendations by the American Academy of Pediatrics and the US CDC to preserve breastfeeding during separation.		
COVID-19; SARS-CoV-2; breastfeeding; maternal mental health; mothers; postpartum; social support	14-Mar-21	Breastfeeding during COVID-19: A Narrative Review of the Psychological Impact on Mothers	Behavioral Sciences	Review	This review summarized evidence regarding the impact of COVID-19 on breastfeeding plans and how these relate to women's psychological outcomes. Searches were conducted on PubMed and Web of Science for studies in English, Spanish, and Portuguese between January 2020 and January 2021. All study designs and pre-prints were considered; 12 studies were included. Reports suggest that COVID-19 impacted breastfeeding frequency and duration and maternal mental health outcomes. Among women who reported changes in frequency in the reviewed studies, more women reported increases (e.g. due to being at home more or for promoting the infant's immunity) rather than decreases in frequency (eg. due to increased workload, caregiving responsibilities, or reduced milk production). Positive breastfeeding experiences have been observed when mothers perceive that they have more time for motherhood, which may be associated with better mental health outcomes. Negative breastfeeding experiences have been observed when mothers are separated from their newborns, when mothers struggle with breastfeeding, or when mothers perceive decreased family and professional support, which seems to be associated with worse mental health outcomes. Although current guidelines formulated during the COVID-19 pandemic strongly recommend the maintenance of breastfeeding practices parents frequently opted for formula and expressed breastmilk, expressing concerns about the safety of breastfeeding. The authors emphasize that health management services must consider the harmful impact of separating mothers and infants on breastfeeding success and maternal mental health.	This review summarized evidence regarding the impact of COVID-19 on breastfeeding plans and how these relate to women's psychological outcomes. Overall, studies showed that the COVID-19 pandemic impacted expectations regarding breastfeeding, both positively (e.g. more time to enjoy motherhood) and negatively (e.g. reduced support and increased work and childcare burden), which in turn affected mothers' mental health. The authors emphasize the harmful impact of separating mothers and infants on breastfeeding success and maternal mental health.	Pacheco F, Sobral M, Guiomar R, de la Torre-Luque A, Caparros-Gonzalez RA, Ganho-Ávila A. Breastfeeding during COVID-19: A Narrative Review of the Psychological Impact on Mothers. Behav Sci (Basel). 2021;11(3):34. Published 2021 Mar 14. doi:10.3390/bs11030034
COVID-19, vaccination, human milk, antibodies	12-Mar-21	Immune response during lactation after anti-SARS-CoV2 mRNA vaccine	medRxiv	Preprint (not peer-reviewed)	This prospective cohort study determined whether anti-COVID-19 mRNA-based vaccines administered during lactation illicit an immune response or the transfer of anti-SARS-CoV-2 antibodies into human milk. Plasma and milk samples were collected before 1st vaccine dose, on the day of the 2nd dose, and 4 weeks after the 2nd dose from 26 lactating individuals who received the mRNA-based vaccines for COVID-19 (Moderna, n=9; Pfizer, n=14) or who recovered from natural SARS-CoV-2 infection (n=3). Maternal plasma was evaluated for IgM and IgG antibodies. Human milk was evaluated for SARS-CoV-2-specific IgA antibodies. There was an increase ($p<0.01$) in plasma anti-SARS-CoV-2 IgM and IgG antibodies after the 1st and 2nd vaccines compared to pre-vaccine samples. There were higher levels ($p<0.05$) of anti-SARS-CoV-2 Receptor Binding Domain (RBD) IgA antibodies in milk samples after the first dose of both vaccines. 17/19 milk samples analyzed on the day of the 2nd vaccine dose were positive for anti-SARS-CoV-2 IgA antibodies. 13/15 milk samples analyzed 4 weeks after the 2nd dose were positive for anti-SARS-CoV-2 RBD IgA. Anti-SARS-CoV-2 RBD IgA antibody levels in milk samples from vaccinated individuals were not significantly different from samples collected after natural SARS-CoV-2 infection. The authors conclude administration of anti-COVID-19 mRNA vaccines during lactation leads to	This prospective cohort study determined whether anti-COVID-19 mRNA-based vaccines administered during lactation illicit an immune response or the transfer of anti-SARS-CoV2 antibodies into human milk. The authors conclude administration of anti-COVID-19 mRNA vaccines during lactation leads to increased anti-SARS-CoV2 IgM and IgG levels in the plasma of lactating mothers and increased anti-SARS-CoV2 Receptor Binding Domain IgA levels in human milk.	Golan, Y., Prahl, M., Cassidy, A., et al. (2021). Immune response during lactation after anti-SARS-CoV2 mRNA vaccine. MedRxiv [preprint]. https://doi.org/10.1101/2021.03.09.21253241

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					increased anti-SARS-CoV2 IgM and IgG levels in the plasma of lactating mothers and increased anti-SARS-CoV2-RBD IgA levels in human milk.		
COVID-19; neonatal	11-Mar-21	Updates in neonatal coronavirus disease 2019: What can we learn from detailed case reports? (Review)	Molecular Medicine Reports	Review	The authors reviewed 40 detailed nonoverlapping case reports on neonatal COVID19 published as of July 15, 2020, to facilitate the clinical treatment, epidemic prevention and control of neonatal COVID-19. The youngest neonate with COVID-19 reported to date had a gestational age of 26 weeks and 4 days. The age at which they were diagnosed with COVID-19 was as early as the day of birth or as late as 27 days of life. Horizontal transmission is the main mode of transmission, and based on current evidence the authors consider it unclear if transmission can occur via placenta, amniotic fluid, cord blood, or breast milk. Of the 40 cases reviewed, 8 involved the testing of breast milk for SARS-CoV-2 RNA with only one positive result. Initial nasopharyngeal swabs collected from the neonate 8 and 10 hours after birth were negative for SARS-CoV-2 RNA but the infant tested positive on the 4th day of life after consumption of expressed and fresh breast milk. It is unclear if the infant was exposed to the virus by other means. Whether newborns are breastfed should be determined after weighing the pros and cons, and infants should be protected to eliminate potential horizontal transmission via droplets, aerosols, and close contact. Regardless of the clinical manifestations, laboratory examinations, or imaging findings of neonatal COVID-19, there is no obvious specificity, which makes the clinical diagnosis and prevention and control of neonatal COVID-19 difficult. The specific mechanism and prognosis of neonatal COVID-19 and the immune protection provided by the SARS-CoV-2 vaccine to neonates are still not very clear and urgently need to be studied.	The authors reviewed 40 detailed case reports on neonatal COVID 19 published as of July 15, 2020, to facilitate the clinical treatment, epidemic prevention and control of neonatal COVID 19. Regardless of the clinical manifestations, laboratory examinations, or imaging findings of neonatal COVID-19, there is no obvious specificity, which makes the clinical diagnosis and epidemic prevention and control of neonatal COVID-19 difficult. Standardization and optimization of treatment are urgent.	Li X, Sun L, Li T. Updates in neonatal coronavirus disease 2019: What can we learn from detailed case reports? (Review). Mol Med Rep. 2021;23(5):351. doi:10.3892/mmr.2021.11990.
COVID-19; Caesarean section; Early Essential Newborn Care; breastfeeding; skin-to-skin contact	11-Mar-21	Early Essential Newborn Care can still be used with mothers who have COVID-19 if effective infection control measures are applied	Acta Paediatrica	Case Report	This article describes the first infant born to a woman with COVID-19 in Vietnam. The infant was born by C-section at 36 weeks and 5 days of gestation in July 2020. The mother and infant remained together during their hospital stay with prolonged skin-to-skin contact and early and exclusive breastfeeding. This was in line with the WHO's Early Essential Newborn Care (EENC) recommendations, the national Vietnamese standard of care since 2014. The mother wore medical masks when in close contact with the infant, which were changed every 4-6 hours or when they felt wet, and washed her hands before and after caring for her infant. The dyad shared the same bed to establish breastfeeding and the infant was periodically placed in a second bed 2 meters away from the mother. Extra breast cleaning with soap and water was recommended if the woman was coughing or producing evident secretions. RT-PCR testing of umbilical cord blood, placenta, amniotic fluid, and breast milks samples were negative for SARS-CoV-2. At 5 days postpartum the mother tested positive for SARS-CoV-2 antibodies (26 days after symptom onset). The infant tested negative at least 3 times during their stay, including at discharge 7 days postpartum, and remained virus-free throughout the 34-day postpartum follow-up according to 7 follow-up tests. Exclusive breastfeeding continued through the follow-up period. The authors conclude that EENC recommendations for prolonged skin-to-skin contact and early and exclusive breastfeeding should still be used with mothers who have COVID-19 if effective IPC measures are applied.	This article describes the first infant born to a woman with COVID-19 in Vietnam. The mother and infant remained together during their hospital stay with prolonged skin-to-skin contact and early and exclusive breastfeeding with appropriate IPC measures. The infant remained SARS-CoV-2 negative throughout 34-day postpartum follow-up.	Tran HT, Thi Le H, Hoang Minh Le C, et al. Early Essential Newborn Care can still be used with mothers who have COVID-19 if effective infection control measures are applied [published online, 2021 Mar 11]. Acta Paediatr. 2021;10.1111/apa.15837. doi:10.1111/apa.15837

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COVID-19; hypercoagulability; pregnancy	8-Mar-21	Management and Perspective of Coronavirus Disease 2019 (COVID-19), Pregnancy, and Hypercoagulability	SN Comprehensive Clinical Medicine	Mini Review	In this mini-review, the authors evaluated clinical and laboratory aspects of COVID-19 in pregnancy. Thrombocytopenia, lymphopenia, and leukopenia were the hematological findings associated with SARS-CoV-2 infection. They discussed a study citing that neutrophilia, leukocytosis, prolonged prothrombin time, increased interleukin (IL)-6 and IL-8, and increased D-dimer were indicative of disease progression. They reviewed the symptoms of COVID-19, with most symptoms being similar to those associated with a common cold, as well as loss of taste and/or smell, and/or gastro-intestinal symptoms. One meta-analysis that found that fever was the most common symptom, and preterm birth (<37 weeks) the most common pregnancy outcome of COVID-19. The authors mentioned studies investigating the hematological considerations of COVID-19, concluding that the disruption of Virchow's triad in conjunction with physiological changes of pregnancy can lead to an increased formation of venous, arterial, and placental blood clots. They recommended the management of hyper-coagulable states in pregnant and non-pregnant people using unfractionated heparin or low-molecular-weight heparin. They also reviewed that current medical treatment for COVID-19 is mainly supportive, and discussed a study finding that remdesivir was safe in breastfeeding women. Finally, they highlighted the survival and mortality findings of various studies, concluding that there were few maternal, fetal, or neonatal deaths attributable to COVID-19.	The authors summarized clinical and laboratory aspects of COVID-19 in pregnant patients, highlighting that common hematological findings were thrombocytopenia, lymphopenia, and leukopenia, with most symptoms being similar to those associated with a common cold, as well as ageusia/anosmia and gastro-intestinal symptoms. Additionally, they underscored the increased risk of hypercoagulability in pregnant women due to physiological and hematological changes in pregnancy and SARS-CoV-2 infection.	Nasir U, Ahmad S. Management and Perspective of Coronavirus Disease 2019 (COVID-19), Pregnancy, and Hypercoagulability [published online ahead of print, 2021 Mar 11]. SN Compr Clin Med. 2021;1-4. doi:10.1007/s42399-021-00854-y
breastfeeding; infant feeding; maternal-infant bonding; emotional support; midwives; Italy	8-Mar-21	In response to "COVID-19 is associated with traumatic childbirth and subsequent mother-infant bonding problems"	Journal of Affective Disorders	Correspondence	The authors respond to the findings by Dekel et al (2021) that COVID-19 is a major stressor that disrupts bonding between mother and newborn and causes breastfeeding issues, noting that the impact of the pandemic is not limited to mothers with COVID-19. They share their experience at a hospital in northern Italy which belongs to the global "Baby-friendly Hospital Initiative," which aims to ensure mothers and infants receive timely and appropriate care through ongoing support of trained professionals. As part of this initiative, midwives provided personalized assistance to pregnant women and the presence of the partner was guaranteed during labor and delivery. Their hospital recorded 590 childbirths for 2019 and 507 for 2020 [months not specified]. After comparing outcomes related to maternal-infant bonding and feeding during 2020 compared to 2019, they found no statistically significant differences in the odds of skin to skin contact for at least 1 hour (OR 1.04; 95% CI 0.69-1.56), early bonding to breast within first 2 hours (OR 0.85; 95% CI 0.58-1.26), exclusive breastfeeding upon discharge (OR 1.23; 95% CI 0.89-1.69), complementary feeding upon discharge (OR 0.87; 95% CI 0.60-1.25), or avoiding breastfeeding (OR 0.73; 95% CI 0.42-1.27). The authors hypothesize that the additional emotional support at their hospital lessened the impact of the COVID-19 pandemic on breastfeeding and maternal-infant bonding.	The authors respond to the findings by Dekel et al (2021) that COVID-19 is a major stressor that disrupts bonding between mother and newborn and causes breastfeeding issues. They report that there was no statistically significant difference in outcomes related to infant feeding and maternal-infant bonding between 2020 and 2019 at their institution, which they attribute to increased emotional support due to participation in the "Baby-friendly Hospital Initiative."	Inzoli A, Zanini A, Miglietta M, et al. In response to "COVID-19 is associated with traumatic childbirth and subsequent mother-infant bonding problems" [published online, 2021 Mar 8]. J Affect Disord. 2021;286:239-240. doi:10.1016/j.jad.2021.02.072
mRNA vaccine; immune response; breastmilk	8-Mar-21	BNT162b2 COVID-19 mRNA vaccine elicits a rapid and synchronized antibody	medRxiv	Preprint (not peer-reviewed)	This study conducted in Israel [dates not reported] studied the antibody response in the breastmilk and serum of a prospective cohort of 10 lactating healthcare providers (mean age 34.6 years; range 30-38 years) who received the 1st dose of the Pfizer-BioNTech COVID-19 mRNA vaccine BNT162b2 approximately 5 months postpartum (mean 154 days, range 68-382) and the 2nd dose 21 days later. The antibody response was rapid and highly	This article describes the vaccine-specific antibody response in the breastmilk and serum of 10 lactating women in Israel who received 2 doses of the Pfizer-BioNTech COVID-19 mRNA vaccine.	Friedman MR, Kigel A, Bahar Y, et al. BNT162b2 COVID-19 mRNA vaccine elicits a rapid and synchronized antibody

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		response in blood and milk of breastfeeding women			synchronized between breastmilk and serum with substantial increases by 7 days following each dose, reaching stabilization 14 days after the 2nd dose. The predominant serum antibody was IgG. The response in the breastmilk included both IgG and IgA with SARS-CoV-2 neutralizing capacity. The authors conclude that these results indicate the potential protection of breastfed infants against COVID-19 by administration of the BNT162b2 COVID-19 vaccine to the breastfeeding mother.	The antibody response was rapid and highly synchronized between breastmilk and serum; breastmilk samples showed both IgG and IgA with neutralizing capacity	response in blood and milk of breastfeeding women. medRxiv. 2021:2021.03.06.21252603. doi: 10.1101/2021.03.06.21252603.
immunity; mRNA vaccine; breastmilk; cord blood; IgG; IgA	8-Mar-21	COVID-19 vaccine response in pregnant and lactating women: a cohort study	medRxiv	Preprint (not peer-reviewed)	Because pregnant and lactating women were excluded from initial COVID-19 vaccine trials, data to guide vaccine decision-making are lacking. 131 reproductive-age (18-45 years) COVID-19 mRNA vaccine recipients (84 pregnant, 31 lactating, and 16 non-pregnant) were enrolled in a prospective cohort study at 2 US medical centers December 2020 - February 2021. Mean ages were 38.4 years in non-pregnant women (SD 8.4 years), 34.1 years in pregnant women (SD=3.3 years) and 34.6 years in lactating women (SD=2.6 years). Titers of SARS-CoV-2 Spike and Receptor Binding Domain IgG, IgA and IgM were measured in participant sera (N=131), umbilical cord sera (N=10), and breastmilk (N=31) at baseline, 2nd vaccine dose, 2-6 weeks post 2nd vaccine, and delivery. Titers were compared to pregnant women 4-12 weeks from SARS-CoV-2 infection (N=37). Post-vaccination symptoms were also assessed. Results show vaccine-induced immune responses were equivalent in pregnant and lactating vs non-pregnant women. Vaccine-induced immune responses (for all titers) were significantly greater than the response to natural SARS-CoV-2 infection ($p<0.001$). Vaccine-generated antibodies were present in all umbilical cord blood and breastmilk samples. SARS-CoV-2 specific IgG, but not IgA, increased in maternal blood and breastmilk with vaccine boost. Together, these results suggest immune transfer to neonates can occur via placental and breastmilk and that 2 doses may be essential to optimize protection against COVID-19 in the infant.	This study found that COVID-19 mRNA vaccines generated robust immunity in pregnant and lactating women, with immunogenicity and reactogenicity similar to that observed in non-pregnant women. Vaccine-induced immune responses were significantly greater than the response to SARS-CoV-2 infection and vaccine-generated antibodies were present in all umbilical cord blood and breastmilk samples.	Gray KJ, Bordt EA, Atyeo C, et al. COVID-19 vaccine response in pregnant and lactating women: A cohort study. medRxiv. 2021:2021.03.07.21253094. doi: 10.1101/2021.03.07.21253094.
breastmilk; COVID-19 vaccine; mRNA; breastfeeding	8-Mar-21	COVID-19 mRNA vaccine is not detected in human milk	medRxiv	Preprint (not peer-reviewed)	Because no pregnant or lactating individuals were included in the Phase 3 clinical trials of COVID-19 vaccines, safety data are currently lacking for these groups. The authors describe the analysis of breast milk samples from 6 individuals within 4-48 hours of COVID-19 mRNA vaccination [dates and location not specified]. Human breast milk samples were collected fresh or frozen (immediately after milk was pumped). Total RNA was isolated from milk components (cells, milk supernatant and/or fat layer) using the RNeasy Mini Kit (Qiagen) according to the manufacturer's protocol. RT-qPCR was performed in triplicate using specific primers targeting the vaccines' mRNA for SARS-CoV-2 spike protein. mRNA-1273 (Moderna) vaccine was spiked into pre-vaccine milk sample before RNA isolation and served as a positive control for this assay. Pre-vaccine samples served as negative controls. Neither mRNA from anti-COVID BNT162b2 (Pfizer) nor mRNA-1273 (Moderna) vaccines were detected in any of the samples tested. These results strengthen the recommendations from the Academy of Breastfeeding Medicine and the WHO that lactating individuals who receive the anti-COVID-19 mRNA-based vaccine should continue to breastfeed their infants uninterrupted.	This analysis of breast milk samples from 6 individuals within 4-48 hours of COVID-19 mRNA vaccination found no evidence of mRNA from either Pfizer or Moderna vaccines. These results strengthen existing recommendations that lactating individuals who receive mRNA COVID-19 vaccines should continue to breastfeed their infants.	Golan Y, Prahl M, Cassidy A, et al. COVID-19 mRNA vaccine is not detected in human milk. medRxiv. 2021:2021.03.05.21252998. doi: 10.1101/2021.03.05.21252998.

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COVID-19; pregnancy; indirect effects; maternal health	7-Mar-21	Pandemics and maternal health: the indirect effects of COVID-19	Anaesthesia	Review	In this review, the authors discussed the indirect effects of the COVID-19 pandemic on maternal health. Higher case fatality rates have been observed in men in most countries due to the pandemic. However, there is growing evidence that while organizational changes to healthcare delivery have occurred to protect those vulnerable to the virus (staff and patients), these changes may lead to indirect, potentially harmful consequences, particularly to vulnerable groups, including pregnant women. These encompass reduced access to antenatal and postnatal care, with a lack of in-person clinics impacting the ability to screen for physical, psychological, and social issues such as elevated blood pressure, mental health issues, and sex-based violence. Indirect consequences also encompass a lack of equity when considering the inclusion of pregnant women in COVID-19 research and their absence from vaccine trials, leading to a lack of safety data for breastfeeding and pregnant women. The risk-benefit analysis of these changes to healthcare delivery remains to be fully evaluated. However, the battle against COVID-19 cannot be at the expense of losing existing quality standards in other areas of healthcare, especially for maternal health.	The authors discussed the indirect effects of the COVID-19 pandemic on maternal health such as reduced access to antenatal and postnatal care, with a lack of in-person clinics impacting the ability to screen for physical, psychological and social issues such as elevated blood pressure, mental health issues and sex-based violence. Indirect consequences also encompass a lack of equity when considering the inclusion of pregnant women in COVID-19 research and their absence from vaccine trials, leading to a lack of safety data for breastfeeding and pregnant women.	Lucas DN, Bamber JH. Pandemics and maternal health: the indirect effects of COVID-19. Anaesthesia. 2021;76 Suppl 4:69-75. doi:10.1111/anae.15408.
SARS-CoV-2; pregnancy; newborn; maternal; breastfeeding	5-Mar-21	Impact of evolving practices on SARS-CoV-2 positive mothers and their newborns in the largest public healthcare system in America	Journal of Perinatology	Original Research	This study aimed to assess the impact of evolving approaches for managing mother/infant dyads affected by maternal SARS-CoV-2 infection in 11 hospitals in New York City, USA. The retrospective cohort study identified mother-newborn dyads delivered from March 1-May 9, 2020. The study analyzed all dyads with a mother who tested positive for SARS-CoV-2 and further stratified them based on newborn test results as mother/newborn status: positive/positive (P/P), positive/ negative (P/N), and positive/untested (P/U). Of the 1198 women that were tested, 23.8% (N=286) tested positive for SARS-CoV-2. The average maternal age for SARS-CoV-2 positive mothers was 29 years and slightly higher (33 years; p = 0.1967) for P/P dyads. 89.7% of infants born to positive mothers were tested and 11 (4.2%) of those tested were positive. P/P newborns were more likely to be admitted to the NICU and their stay was significantly longer (7.5 days) than those of P/N (5 days) or P/U newborns (2.5 days) (p=0.004). Breastfeeding among positive mothers was lower than the health system's baseline (57% versus 87%), as was the rate of skin-to-skin contact (36% versus 60%). The breastfeeding rate for P/P dyads was higher (81%) than P/N (55%) and P/U (70%) dyads. The authors conclude that high-risk populations can be safely and effectively treated in resource-limited environments.	The authors aimed to assess the impact of the COVID-19 pandemic on management practices of mother/infant dyads in 11 hospitals in New York City, USA, from March-May 2020. They report that breastfeeding was lower among positive mothers than the general population, and that SARS-CoV-2-positive mothers with SARS-CoV-2-positive infants had higher rates of breastfeeding than positive mothers with negative or untested infants.	Malhotra, Y., Knight, C., Patil, U. P., et al. (2021). Impact of evolving practices on SARS-CoV-2 positive mothers and their newborns in the largest public healthcare system in America. Journal of Perinatology. https://doi.org/10.1038/s41372-021-01023-8
COVID-19; neonate; breastfeeding; telehealth; e-health; Iran	4-Mar-21	Mobile-Assisted Virtual Bonding Enables Breast Milk Supply in Critically Ill Mothers With COVID-19: A Reflection on the	Cureus	Case Report	The authors presented 3 cases where a favorable outcome was observed through a telehealth initiative for breastfeeding mothers with severe COVID-19 pneumonia. The 3 cases involved a 31-year-old who delivered at 32 weeks of gestation, a 26-year-old who delivered at 31 weeks of gestation, and a 36-year-old who delivered at 36 weeks gestation with severe COVID-19 pneumonia who were separated from their neonates in a maternity hospital in Iran in March, April and July 2020 respectively. The process involved sharing pictures and videos of neonates with the mothers, which provided periodic updates on the progress of the infants. In all 3 cases, the	The authors presented 3 cases where a favorable outcome was observed through a telehealth initiative for breastfeeding mothers with severe COVID-19 pneumonia who were separated from their neonates in a maternity hospital in Iran. Telelactation enabled all 3 mothers to maintain	Farhadi R, Mehrpisheh S, Philip RK. Mobile-Assisted Virtual Bonding Enables Breast Milk Supply in Critically Ill Mothers With COVID-19: A Reflection on the Feasibility of

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		Feasibility of Telelactation			mothers were able to maintain their milk supply during the period of physical separation from their children (16 days and 10 days for the latter 2 cases, ~7-8 months for the first case where the mother underwent mitral valve replacement surgery). Virtual mother-infant bonding with mobile-assisted technology helps to connect SARS-CoV-2-infected mothers with newborn infants remotely and enables mobile lactation. Techniques offering telelactation could play a supplementary role during the COVID-19 pandemic and potentially hasten the emotional recovery of mothers separated from their infants during the postnatal period by playing an important role in breast milk initiation and sustenance.	their milk supply during the period of physical separation. Techniques offering telelactation could play a supplementary role during the COVID-19 pandemic and potentially hasten the emotional recovery of mothers separated from their infants during the postnatal period by playing an important role in breast milk initiation and sustenance.	Telelactation. Cureus. 2021;13(3):e13699. doi:10.7759/cureus.13699.
COVID-19; breast milk expression; breastfeeding; decontamination; milk banks	4-Mar-21	Chlorine Solutions for a Safe Method of Decontamination of Breast Pump Milk Collection Kits Before and After the Coronavirus Disease 2019 Pandemic	Frontiers in Nutrition	Original Research Article	Promotion of breast feeding and breast pumping is essential for the most vulnerable infants even if the current COVID-19 pandemic imposes stringent hygienic measures. This study in France [dates not reported] evaluated the safety and efficacy of using chlorine solution (CS) to decontaminate breast pumps and bottles. Researchers prepared solution trays with not only the recommended dilution (1 tablet for 5L of water) but also 3 other dilutions (2, 3, or 4 tablets for 5L of water) to mimic dilution errors. Bottles used to collect the milk were soaked for 15 min; after draining, bottles were filled with increasing volumes of milk (20, 50, 100, or 200 ml). Results of 1,982 breast pump milk samples showed a major decrease of the microbial contamination using either sterile device or decontamination with CS compared to a simple soap washing. Under the usual dilution conditions (1 tablet for 5 L of water), the residual estimated concentration of hydrochloric acid in milk was below the WHO guideline threshold for safe drinking water, whether the bottles were filled with 200, 100, or even 50 ml. This threshold was reached only in the worst-case scenario consisting in the use of 4 tablets in 5 L of water for decontamination followed by an addition of 50 ml of milk in the previously drained bottle. The authors propose a guideline for the safe use of CS, and suggest breast pump decontamination might be necessary for use in vulnerable infants, special circumstances such as the current COVID-19 pandemic, cases in which women living are living in unsanitary conditions, or for women pumping their milk at work with no access to clean water. This method of decontamination reduces losses of milk for bacteriological reasons in human milk banks and may also help prevent horizontal contamination of breastmilk with SARS-CoV-2.	This study in France evaluated the safety and efficacy of using chlorine solution to decontaminate breast pumps and bottles, finding it to be a safe and effective method for decontamination under usual dilation conditions and in cases of dilution error resulting in 2x or 3x the amount of recommended chlorine in solution. The authors recommend this method of decontamination to reduce losses of milk for bacteriological reasons in human milk banks and to help prevent horizontal contamination of breastmilk with SARS-CoV-2.	Rigourd V, Mouadh B, Poupon J, et al. Chlorine Solutions for a Safe Method of Decontamination of Breast Pump Milk Collection Kits Before and After the Coronavirus Disease 2019 Pandemic. Front Nutr. 2021;8:574311. Published 2021 Mar 4. doi:10.3389/fnut.2021.574311
vaccine exclusion; COVID-19; pregnant and lactating women	4-Mar-21	Exclusion of pregnant and lactating women from COVID-19 vaccine trials: a missed opportunity	European Heart Journal	Article	The author reports on excluding pregnant and lactating women in vaccine trials, forcing women to rely on anecdotal and delayed evidence rather than clinical trials due to a 'protection by exclusion' plan even for COVID-19 vaccines. She reminds us that there is no reason to assume that a vaccine is harmful, and exclusion should rely on clinical evidence rather than assumption. The COVID-19 pandemic has been especially dangerous for front-line healthcare workers, many of which are women of childbearing age, making this practice of excluding pregnant and lactating women especially relevant now. Furthermore, there have even been recommendations to avoid pregnancy in the weeks following the COVID-19 vaccination. The conditions of pregnant and lactating women are different	The author reports on excluding pregnant and lactating women in vaccine trials, forcing women to rely on anecdotal and delayed evidence rather than clinical trials due to a 'protection by exclusion' plan even for COVID-19 vaccines.	Van Spall HGC. Exclusion of pregnant and lactating women from COVID-19 vaccine trials: a missed opportunity [published online, 2021 Mar 4]. Eur Heart J. 2021;ehab103. doi:10.1093/eurheartj/ehab103

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					and should not be lumped together for exclusion. The exclusion of pregnant and lactating women from trials does not uphold ethical principles of justice, beneficence, and autonomy. The authors report these concerns as a missed opportunity to inform pregnant and lactating women's clinical care.		
breastfeeding, COVID-19, SARS-CoV-2, post-partum care, pregnancy, skin-to-skin contact, SSV	4-Mar-21	COVID-19 Guidelines for Pregnant Women and New Mothers: A Systematic Evidence Review	International Journal of Gynaecology and Obstetrics	Systematic Review	This systematic review aimed to summarize recommendations for 3 areas of maternal and neonatal care – breastfeeding, post-partum social distancing, and decontamination. The authors of this review searched the PubMed, Embase and Web of Science databases and found a total of 385 articles up to 8 November 2020. After removal of articles that did not cover the correct populations or subject matter, 74 articles were left and were included in the analysis. The results showed that most articles recommended direct breastfeeding with enhanced precaution measures. Many articles agreed that transmission via breast milk is unlikely, while a smaller proportion felt evidence was lacking to make a meaningful assessment. Recommendations regarding post-partum social distancing varied, with some articles recommending routine separation of the mother and newborn immediately after birth, regardless of either the mother or the child's symptoms. Others specified that separation should occur only if either the mother or child was symptomatic or had symptomatic contacts, or if the infant was high-risk because they were pre-term or had required care in the neonatal ICU. Articles published more recently often recommended keeping the mother and newborn in the same room when possible. Decontamination recommendations emphasized mask wearing, good hand hygiene, and proper cleaning of surfaces. In conclusion, there was a focus on shared decision making when approaching topics such as breastfeeding and post-partum social distancing. Guidelines for decontamination were fairly uniform in nature.	This systematic review aimed to summarize recommendations for 3 areas of maternal and neonatal care – breastfeeding, post-partum social distancing and decontamination. Most articles recommended direct breastfeeding with enhanced precaution measures, and more recent articles recommended keeping the mother and newborn in the same room when possible. Decontamination recommendations emphasized mask wearing, good hand hygiene, and proper cleaning of surfaces.	DiLorenzo MA, O'Connor S, Ezekwesili C, et al. COVID-19 guidelines for pregnant women and new mothers: A systematic evidence review [published online ahead of print, 2021 Mar 4]. Int J Gynaecol Obstet. 2021. doi:10.1002/ijgo.13668
COVID-19; human rights in childbirth; humanistic childbirth; midwifery; public health	2-Mar-21	Protecting Women's and Newborns' Rights in a Public Maternity Unit During the COVID-19 Outbreak: The Case of Dra. Eloísa Díaz - La Florida Hospital in Santiago, Chile	Frontiers in Sociology	Original Research Article	This article presents a case study of the Maternity in Dra. Eloísa Díaz' hospital in Santiago, Chile, describing their response to the COVID-19 pandemic from March to July 2020 and the obstetric outcomes achieved. Recognized for their humanistic model of care called the "Safe Model of Personalized Childbirth," this hospital adapted protocols to maintain its quality of care standards despite the COVID-19 health crisis. One initial obstacle was the issuance of guidelines across Chile that contrasted with standards of care that had become rights in the Maternity: companion of choice during labor, skin-to-skin contact after birth, and early breastfeeding. The authors carried out interviews with healthcare providers and reviewed outcomes of the 55 women (mean age 29.4 years; range not reported) who were SARS-CoV-2 positive via RT-PCR. 41 (75%) of the women were asymptomatic, 9 (16%) delivered at <37 weeks' gestation, and 2 (3.6%) required ICU admission. Protocols were put in place to re-establish the companion during labor and childbirth, skin-to-skin contact, and breastfeeding, which were suspended for almost 3 weeks before Chilean guidance was updated 2 April 2020, and an Instagram account was created to communicate with the external community. After some initial weeks of adjustment, the standards of care for all women, including those with COVID-19, were re-established almost to pre-pandemic levels. For example,	This article presents a case study of a hospital in Santiago, Chile, describing their response to the COVID-19 pandemic and the obstetric outcomes achieved. After some initial weeks of adjustment, the standards of care for all women, including those with COVID-19, were re-established almost to pre-pandemic levels. This case shows that quality of care can be maintained and the rights of women and newborns can be respected during a health crisis like the COVID-19 pandemic.	Leiva G, Sadler M, López C, et al. Protecting Women's and Newborns' Rights in a Public Maternity Unit During the COVID-19 Outbreak: The Case of Dra. Eloísa Díaz - La Florida Hospital in Santiago, Chile. Front Sociol. 2021;6:614021. Published 2021 Mar 2. doi:10.3389/fsoc.2021.614021

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					in 2020 (up to July) 71% of mothers had immediate skin-to-skin contact of >30 min after birth, including breastfeeding, compared to 70% in 2019. This case shows that quality of care can be maintained and the rights of women and newborns can be respected during a health crisis like the COVID-19 pandemic.		
COVID 19; antiviral activity; clinical application of human milk factors; functions human milk factors; human milk research	2-Mar-21	Anti-Infective, Anti-Inflammatory, and Immunomodulatory Properties of Breast Milk Factors for the Protection of Infants in the Pandemic From COVID-19	Frontiers in Public Health	Hypothesis and theory article	The authors state their paper is a summary of the current evidence on the mechanisms that explain human milk's multiple functions of anti-infective responses and the possible application of breast milk against the COVID-19 pandemic. This "hypothesis and theory article" has 3 sections: breast milk and mediators; breast milk and viral infection; and breast milk factors: a new topic of COVID research. In the first part of the paper, the known mechanisms of protection and defense of breast milk are delineated. The authors highlight potential therapeutic activity of human milk under evaluation in infections, inflammatory bowel diseases, hypertension, cognitive decline, and cancer. In the second section, human milk effects in viral infections are described. The authors propose that most of the bio-active factors of human milk may interact synergistically with each other or with the immune response. In the third section, the authors state that few data are available about human milk's potential role against COVID-19, but they review studies that document its antiviral effect against many viruses. The authors hypothesize that human milk mediators might have a function in all pathologic events related to COVID-19.	The authors state their paper is a summary of the current evidence on the mechanisms that explain human milk's multiple functions of anti-infective responses and the possible application of breast milk against the COVID-19 pandemic. The authors hypothesize that human milk mediators might have a function in all pathologic events related to COVID-19.	Quitadamo PA, Comegna L, Cristalli P. Anti-Infective, Anti-Inflammatory, and Immunomodulatory Properties of Breast Milk Factors for the Protection of Infants in the Pandemic From COVID-19. Front Public Health. 2021;8:589736. Published 2021 Mar 2. doi:10.3389/fpubh.2020.589736
COVID-19; visitation; pediatrics; research; clinical care; policies; family separation	2-Mar-21	Unintended consequences of restrictive visitation policies during the COVID-19 pandemic: implications for hospitalized children	Pediatric Research	Commentary	The authors describe the unintended effects of restrictive visitation policies in research and clinical settings in the United States during the COVID-19 pandemic and identify strategies to mitigate the adverse impacts of these policies on families and children. The authors suggest that researchers consider that patients who feel distressed due to restrictive visitation policies may be less willing to participate in research. Adequate consent may not be granted for studies involving children if all parents are not present. These restrictive measures may result in under-enrollment, reduced sample sizes, and underrepresentation of some populations in research. Impacts on family-centered care in neonatal intensive care units include physiological and psychological impacts on infants, less skin-to-skin contact, decreased breastfeeding rates, increased parental stress and anxiety, and decreased parental participation in decision-making. Health inequities may also be exacerbated through restrictive visitation policies due to social isolation, decreased family support, parental guilt, discrimination and bias, and less ability for vulnerable populations to advocate for themselves. These policies can also reduce healthcare utilization due to avoidance or deferring medical procedures and patient and family dissatisfaction. Suggestions for mitigating these policies' effects include modifying policies and procedures when possible, applying ethical rigor and transparency to policy implementation, increasing communication, engaging patients, and providing support mechanisms.	This article details the adverse effects of restrictive visitation policies in research and clinical settings on children in the United States during the COVID-19 pandemic. Adverse effects include decreased participation in research, less provision of family-centered care, exacerbation of health inequities, and less health care utilization. The authors provide suggestions for researchers and clinicians to help mitigate these adverse effects.	Raphael JL, Kessel W, Patel M. Unintended consequences of restrictive visitation policies during the COVID-19 pandemic: implications for hospitalized children [published online, 2021 Mar 2]. Pediatr Res. 2021;10.1038/s41390-021-01439-0. doi:10.1038/s41390-021-01439-0

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SARS-CoV-2, COVID-19, Coronavirus, breast milk, breastfeeding	2-Mar-21	SARS-CoV-2 Antibodies Detected in Human Breast Milk Post-Vaccination	medRxiv	Preprint (not peer-reviewed)	The authors of this prospective cohort study aimed to determine whether SARS-CoV-2-specific immunoglobulins are found in breast milk post-vaccination, and to characterize the time course and types of immunoglobulins present. 6 lactating women who planned to receive both doses of the Pfizer-BioNTech or Moderna vaccine between December 2020 and January 2021 were included in this study. Breast milk samples were collected between December 2020 and February 2021. Samples were collected at the following timepoints: pre-vaccination; 1, 4, 7, 11 and 14 days post-1st vaccine dose; 1 day before 2nd dose; and 1, 4, 7, 11, 14 days post-2nd vaccine dose. In total, 50 human milk samples were included in the analysis. The results showed that the 6 lactating women who received 2 doses of the SARS-CoV-2 vaccine had significantly elevated levels of SARS-CoV-2-specific IgG and IgA antibodies in breast milk beginning at Day 7 after the initial vaccine dose, with an IgG-dominant response. This is in contrast to previous work showing an IgA-dominant antibody response in the breast milk of previously infected/exposed women. In conclusion, this study showed that maternal vaccination results in SARS-CoV-2-specific immunoglobulins in breast milk that may be protective for infants.	This prospective cohort study aimed to determine whether SARS-CoV-2-specific immunoglobulins are found in breast milk post-vaccination, and to characterize the time course and types of immunoglobulins present. Results found that lactating women who received 2 doses of the SARS-CoV-2 vaccine had significantly elevated levels of SARS-CoV-2-specific IgG and IgA antibodies in breast milk, with an IgG-dominant response.	Baird JK, Jensen SM, Urba WJ, et al. SARS-CoV-2 antibodies detected in human breast milk post-vaccination. 2021. doi: 10.1101/2021.02.23.21252328.
COVID-19; Lactating women; Pregnant women; Quality of life; Sexual function	1-Mar-21	Sexual function, mental health, and quality of life under strain of COVID-19 pandemic in Iranian pregnant and lactating women: a comparative cross-sectional study	Health and Quality of Life Outcomes	Original Research	The authors examined the impact of the COVID-19 pandemic on the psychological health, sexual function, and quality of life for pregnant and lactating women in Iran from May to June 2020. The study was cross-sectional and the participants (n = 604, mean age 20.81 years, age range 18-45) were asked to complete a questionnaire. Mean scores on the Hospital Anxiety and Depression Scale (14 questions, with a score >11 considered clinical disease) were higher for pregnant (12.11, SD = 6.72) and lactating (11.98, SD = 8.44) women compared to non-lactating/non-pregnant women (9.38, SD = 6.2, P < 0.001). Mean scores for quality of life (on the Short Form Health Survey (SF-12), with possible score 0-100, higher score indicating higher quality of life) for pregnant women (68.21, SD = 9.47) and lactating women (74.18, SD = 12.65) were lower than for non-pregnant, non-lactating women (79.03, SD = 10.48, P < 0.001). Mean scores for sexual function (on the Female Sexual Function Index, with a score <23 considered sexual dysfunction) were also lower in pregnant (22.71, SD = 8.16) and lactating (22.72, SD = 8.16) women when compared to non-pregnant/non-lactating women (26.19, SD = 3.93, P < 0.001). The authors suggest deployment of psychological interventions for the pregnant and breastfeeding population during the COVID-19 pandemic.	This article assessed the impact of the COVID-19 pandemic on depression, anxiety, quality of life, and sexual function for pregnant and lactating women in Iran during the COVID-19 pandemic. Pregnant and lactating women had higher scores for depression and anxiety and lower scores for sexual function and quality of life compared to non-pregnant/non-lactating women.	Mirzaei N, Jahanian Sadatmahalleh S, Bahri Khomami M, et al. Sexual function, mental health, and quality of life under strain of COVID-19 pandemic in Iranian pregnant and lactating women: a comparative cross-sectional study. Health Qual Life Outcomes. 2021;19(1):66. Published 2021 Mar 1. doi:10.1186/s12955-021-01720-0
COVID-19; Crohn's disease; inflammatory bowel disease; ulcerative colitis; pregnancy; United Kingdom	1-Mar-21	Impact of the coronavirus infectious disease (COVID-19) pandemic on the provision of inflammatory bowel disease (IBD) antenatal care and	British Medical Journal (BMJ) Open Gastroenterology	Article	This study examined the impact of the COVID-19 pandemic on inflammatory bowel disease (IBD) antenatal care and pregnancy outcomes in the United Kingdom. Retrospective data were recorded in consecutive patients attending for IBD antenatal care from March-August 2020 including outpatient appointments, infusion unit visits and advice line encounters. 244 pregnant women (mean age=31.3 years; 93.4% Caucasian) with IBD were included, of which 75 (30.7%) were on biologics. Biologic treatment was stopped in 22 (29.3%) cases, at a median gestational age of 28 weeks. Steroids were given in 22 cases (9%). The care provided during 460 patient encounters was not affected by the pandemic in 94.1% of cases. 68.2% of	This study examined the impact of the COVID-19 pandemic on inflammatory bowel disease (IBD) antenatal care and pregnancy outcomes in the United Kingdom. The findings indicate that IBD antenatal care adjustments during the pandemic have not negatively affected patient care. Despite high levels of immunosuppression, only	Selinger CP, Fraser A, Collins P, et al. Impact of the coronavirus infectious disease (COVID-19) pandemic on the provision of inflammatory bowel disease (IBD) antenatal care and outcomes of pregnancies in women

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		outcomes of pregnancies in women with IBD			encounters were performed via telephone (compared with 3% pre-pandemic practice, p<0.0001). 110 women delivered 111 live newborns (mean 38.2 weeks gestation), with 12 (11%) giving birth before week 37. Birth occurred by vaginal delivery in 72 (56.4%) and by C-section in 48 (43.6%) cases. 33 C-sections were elective (12 for IBD indications) and 15 were emergency C-sections. Breast feeding was recorded for 34 of 88 (38.6%) documented cases and patients exposed to biologics were not less likely to breastfeed (p=1). Among the 244 pregnant women with IBD, 1 suspected SARS-CoV-2 infection was recorded. The findings indicate that IBD antenatal care adjustments during the pandemic have not negatively affected patient care. Despite high levels of immunosuppression, only a single SARS-CoV-2 infection occurred.	a single SARS-CoV-2 infection occurred.	with IBD. BMJ Open Gastroenterol. 2021;8(1):e000603. doi:10.1136/bmjgast-2021-000603.
COVID-19; parent-infant dyad; hospital visitation; neonates; breastfeeding; isolation practices; United States	1-Mar-21	The Ripple Effect of a Pandemic on the Parent–Infant Dyad	Neonatal Network	Commentary	In this commentary, the author explored the implications of isolation practices on parent-infant dyads during the COVID-19 pandemic. For mothers with suspected or confirmed COVID-19, the American Academy of Pediatrics guideline updated in May 2020 provided expanded guidance for rooming-in, delayed cord-clamping, breastfeeding, testing, NICU, and hospital discharge. Recognizing that the data are limited guiding care practices for mothers and newborns, temporary separation is recommended. Studies thus far have not detected the virus in breast milk. It is recommended that mothers pump and a noninfected caregiver feed the infant. However, a mother may decide to breastfeed despite the relative risk of transmission. A number of hospitals across the United States have banned all visitors, including parents, from the NICU in an attempt to protect these most vulnerable patients from exposure. Parent responses to being banned from seeing their infants reveal their feelings of pain and isolation. Patient and family-centered care (FCC) principles recognize that the family plays a vital role in the health and well-being of the infant. With limited visitations, there is a need to find secure, alternative means of communication with families, such as through video conferencing. During this dynamic period of understanding COVID-19, there is a need to stay abreast of the evidence and adjust policies and care guidelines accordingly.	In this commentary, the author explored the implications of isolation practices on parent-infant dyad during the COVID-19 pandemic. With limited visitations, there is a need to find secure, alternative means of communication with families such as through video conferencing. During this dynamic period of understanding COVID-19, there is a need to stay abreast of the evidence and adjust policies and care guidelines accordingly.	Reyna BA. The Ripple Effect of a Pandemic on the Parent-Infant Dyad. Neonatal Netw. 2021;40(2):117-120. doi:10.1891/0730-0832/11-T-690.
HCoVs; SARS-CoV-2; cross-reactivity; human milk; passive immunity; breastfeeding	1-Mar-21	Previous viral symptoms and individual mothers influenced the leveled duration of human milk antibodies cross-reactive to S1 and S2 subunits from SARS-CoV-2, HCoV-229E, and HCoV-OC43	Journal of Perinatology	Article	This US study investigated the influence of previous viral symptoms on the level and duration of human milk antibodies reactive to SARS-CoV-2 and other common human coronaviruses (HCoVs). Human milk samples were collected once per month for 4 consecutive months (March-June 2020) from 9 mothers aged 21-35 years with (n=5) and without (n=4) previous self-reported viral symptoms during 2020. Antibodies reactive to S1 and S2 subunits from SARS-CoV-2, HCoV-OC43, and HCoV-229E were measured via ELISA. The level of SARS-CoV-2 S2-reactive SIgA/IgA was higher in mothers with symptoms (p = 0.014). S2-reactive SIgM/IgM tended to be higher in mothers with symptoms (p = 0.066). SARS-CoV-2 S2- and HCoV-229E-reactive IgG were not related to previous symptoms. The duration of antibody levels in human milk in mothers with previous viral symptoms varied between 3 and 4 months after the reported viral symptoms. The authors conclude that previous viral symptoms may change the antibody cross-reactive levels to SARS-CoV-2 and HCoVs in human milk. These results	This study analyzed milk samples from 9 US mothers with (n=5) and without (n=4) previous viral symptoms. Results indicate that patients with viral symptoms had higher levels of SARS-CoV-2 S2-reactive SIgA/IgA and tended to have higher SARS-CoV-2 S2-reactive SIgM/IgM antibodies. Symptoms did not relate to SARS-CoV-2- and HCoV-229E-reactive IgG in human milk.	Demers-Mathieu V, DaPra C, Mathijssen GB, et al. Previous viral symptoms and individual mothers influenced the leveled duration of human milk antibodies cross-reactive to S1 and S2 subunits from SARS-CoV-2, HCoV-229E, and HCoV-OC43 [published online ahead of print, 2021 Mar 1]. J Perinatol.

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					underline the importance of breastfeeding to provide passive immunity to infants via human milk antibodies. The next step of this investigation will be to determine the neutralizing capacity of human milk antibodies against SARS-CoV-2.		2021;1-9. doi:10.1038/s41372-021-01001-0
breastmilk substitutes; International Code; breastfeeding; aggressive marketing; baby formula; COVID-19; emergencies; maternal child health; infant and young child feeding; malnutrition	1-Mar-21	Old Tricks, New Opportunities: How Companies Violate the International Code of Marketing of Breast-Milk Substitutes and Undermine Maternal and Child Health during the COVID-19 Pandemic	International Journal of Environmental Research and Public Health	Article	Inappropriate marketing of breastmilk substitutes (BMS), feeding bottles, and teats has the potential to threaten breastfeeding practices and exacerbate child mortality, morbidity, and malnutrition in the context of the COVID-19 pandemic. These tactics are in direct violation of the International Code of Marketing of Breast-Milk Substitutes ("the Code"). This study reviewed promotional materials and activities from 9 BMS companies in 14 countries since the start of the COVID-19 pandemic (defined as 30 January 2020) up to October 2020. Reported violations of Executive Order 51 in the Philippines (based on the Code) were also examined from January 2019 - July 2020. Results indicate that companies are capitalizing on fear related to COVID-19 worldwide by using health claims and misinformation about breastfeeding. 8 themes emerged: 1) Unfounded health claims on immunity that prompt fear; 2) Association with public health authorities to gain legitimacy; 3) Appeals to public sentiment of solidarity and hope; 4) Influxes of BMS product and supply donations related to COVID-19; 5) Prominent use of digital platforms; 6) Promoting uncertainty through breastfeeding endorsements; 7) Discounts on BMS products linked to COVID-19; and 8) Outreach to health professionals through educational events related to COVID-19 and infant and young child feeding. The authors also found a sharp increase of reported marketing violations in the Philippines during the pandemic: 291 during the first months of the outbreak compared with 70 in all of 2019. The authors recommend monitoring marketing tactics to inform World Health Assembly actions and targeted Code enforcement. Efforts should also be made to address misinformation about breastfeeding in the context of COVID-19 and prevent spillover of BMS donations to breastfeeding mothers. Longer-term action includes holding social media platforms accountable, raising public awareness on the Code, and mobilizing community monitoring efforts.	This study reviewed promotional materials and activities from 9 breastmilk substitute companies in 14 countries since the start of the COVID-19 pandemic, finding that these companies capitalized on fear related to COVID-19 by using health claims and misinformation about breastfeeding.	Ching C, Zambrano P, Nguyen TT, et al. Old tricks, new opportunities: How companies violate the international code of marketing of breast-milk substitutes and undermine maternal and child health during the COVID-19 pandemic. International Journal of Environmental Research and Public Health. 2021;18(5). doi: 10.3390/ijerph18052381.
COVID-19; Caesarean section; SARS-CoV-2; hypoxia; intrauterine transmission; placental insufficiency; transplacental transmission; vertical transmission	27-Feb-21	Intrauterine vertical SARS-CoV-2 infection: a case confirming transplacental transmission followed by divergence of the viral genome	BJOG: An International Journal of Obstetrics and Gynaecology	Case Report	This article presents a case of COVID-19 during pregnancy which led to intra-uterine SARS-CoV-2 transmission with placental dysfunction and fetal distress. The patient was a 27-year-old woman (gravida 2, para 1) seen at a university hospital in Sweden at gestational week 34 + 4 days due to 3-day history of fever, abdominal pain, and reduced fetal movements, along with one day of dry coughing [dates not reported]. RT-qPCR of nasopharynx (NPH) throat swab was positive for SARS-CoV-2. In light of the cardiotocograph results at admission, the team performed an immediate C-section. The neonate showed no initial signs of spontaneous breathing and was ventilated in a separate room until spontaneous breathing began at 6 minutes of age. The neonate had no contact with the mother during the first 60 hours of life; RT-qPCR of NPH swab obtained from the neonate 48 hours after the delivery was positive for SARS-CoV-2. All 27 staff that tended to the neonate and 4 nearby patients tested negative for SARS-CoV-2 via RT-qPCR. The neonate was united with the mother 60 hours after birth, at which point	This article presents a case of COVID-19 during pregnancy which led to intra-uterine SARS-CoV-2 transmission with placental dysfunction and fetal distress. The authors propose that placental inflammation played a central role in the transmission of SARS-CoV-2 from mother to fetus.	Zaigham M, Holmberg A, Karlberg ML, et al. Intrauterine vertical SARS-CoV-2 infection: a case confirming transplacental transmission followed by divergence of the viral genome [published online, 2021 Feb 27]. BJOG. 2021;10.1111/1471-0528.16682. doi:10.1111/1471-0528.16682

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					breastfeeding was initiated. Viral genome sequencing found the same 12 variant positions in the SARS-CoV-2 genomes from maternal, neonatal, and placenta samples, indicating vertical transmission. SARS-CoV-2 RNA was found in the maternal blood, and RT-qPCR indicated the highest viral load within the placenta. Other studies have suggested that placental inflammation may play a central role in the transmission of SARS-CoV-2. In this case, SARS-CoV-2 protein was found in the villous cytotrophoblasts and syncytiotrophoblasts, and massive perivillous fibrin deposits covered >50% of the placenta. The placental histopathological changes seen in this case are similar to previous reports.		
Breastfeeding; COVID-19; Vaccination	27-Feb-21	Breastfeeding and COVID-19 vaccination: position statement of the Italian scientific societies	Italian Journal of Pediatrics	Commentary	The availability of the COVID-19 vaccine has raised the issue of its compatibility with breastfeeding. Consequently, the Italian Society of Neonatology, the Italian Society of Pediatrics, the Italian Society of Perinatal Medicine, the Italian Society of Obstetrics and Gynecology, the Italian Association of Hospital Obstetricians-Gynecologists, and the Italian Society of Infectious and Tropical Diseases have made an ad hoc consensus statement. They begin by summarizing indications from the UK, US, Canada, and the EU. The UK Joint Committee on Vaccination and Immunization advises that breastfeeding women should be offered the COVID-19 vaccine if they are otherwise eligible. The Canadian Pfizer-BioNTech vaccine manufacturer sheet simply states that it is not known whether the vaccine is excreted in human milk and that risk to the infant cannot be excluded. While the US Food and Drug Administration and Centers for Disease Control and Prevention have emphasized the absence of scientific data (without explicit contra-indication), the US Society for Maternal-Fetal Medicine and the American College of Obstetricians and Gynecologists both state that the vaccine should be offered to breastfeeding women. The Academy of Breastfeeding Medicine states it is very unlikely that mRNA from the vaccine would pass into human milk, and if so would likely have no biological effect on the infant. They also note that vaccination of breastfeeding mothers may allow the passage of anti-SARS-CoV-2 IgA antibodies from mother to infant within 5-7 days. The European Medicines Agency states no specific risk is expected for the breastfeeding mother and infant. Since the health benefits of breastfeeding are well demonstrated and the health risk for the nursed infant is biologically implausible, the aforementioned Italian scientific societies conclude that COVID-19 vaccination is compatible with breastfeeding.	This commentary summarizes the position statement of 6 Italian scientific societies that the COVID-19 vaccine is compatible with breastfeeding. Indications from the UK, US, Canada, and the EU are also summarized.	Davanzo R, Agosti M, Cetin I, et al. Breastfeeding and COVID-19 vaccination: position statement of the Italian scientific societies. Ital J Pediatr. 2021;47(1):45. Published 2021 Feb 27. doi:10.1186/s13052-021-00998-6
COVID-19, SARS-CoV-2, Neonates, Young Infants, Fever, Sepsis	25-Feb-21	Neonates and Young Infants With COVID-19 Presented With Sepsis-Like Syndrome: A Retrospective Case Controlled Study	Frontiers in Pediatrics	Original Research	The authors aimed to describe the presentations and biochemical characteristics of sepsis-like syndrome (SLS) in infants aged <2 months who tested positive for SARS-CoV-2 compared to those in the same age group who were SARS-CoV-2 negative, between April 1 and July 1, 2020. Infants were divided into two groups: Group 1 (n=41), infants with positive nasal/oropharyngeal PCR tests for SARS-CoV-2 (study group); and Group 2 (n=40), infants with negative PCR tests for SARS-CoV-2 (control group). The results included 105 infants admitted for clinical sepsis: 41 were SARS-CoV-2 positive, and 64 were negative. Fever was present in 90% of SARS-CoV-2 positive infants vs. 80% of the negative group. SARS-CoV-2 positive infants	The authors aimed to describe the presentations and biochemical characteristics of sepsis-like syndrome (SLS) in infants aged <2 months who tested positive for SARS-CoV-2 compared to those in the same age group who were SARS-CoV-2 negative. The study showed that respiratory symptoms were more common in the SARS-	Hassan M, Khalil A, Magboul S, et al. Neonates and Young Infants With COVID-19 Presented With Sepsis-Like Syndrome: A Retrospective Case Controlled Study. Front Pediatr. 2021;9:634844.

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					had a higher incidence of nasal congestion and cough (39% and 29%, respectively) compared to the SARS-CoV-2 negative group (20% and 3%, respectively, P<0.05). Poor feeding and hypoactivity occurred more frequently in the SARS-CoV-2 negative group (58% and 45%, respectively) than in the SARS-CoV-2 positive group (22% and 12%, respectively, P<0.004). CSF cultures were negative in 26/27 SARS-CoV-2 positive infants, while all SARS-CoV-2 negative infants had negative CSF cultures. Blood cultures were negative in both groups, and urine cultures were positive for bacterial growth in 9 infants with SARS-CoV-2 negative sepsis. This study showed that respiratory symptoms were more common in the SARS-CoV-2 positive group, while poor feeding and hypoactivity were more common in the SARS-CoV-2 negative group. However, the clinical differentiation between SARS-CoV-2 disease and sepsis in such age groups is difficult. Therefore, screening young infants with SLS for SARS-CoV-2 is necessary during this pandemic.	CoV-2 positive group, while poor feeding and hypoactivity were more common in the SARS-CoV-2 negative group. Screening young infants with SLS for SARS-CoV-2 is necessary during this pandemic.	Published 2021 Feb 25. doi:10.3389/fped.2021.634844
COVID-19; NICU staff; family-centered care; neonatal intensive care unit; parents; pre-term infant	24-Feb-21	The Collateral Impact of COVID-19 Emergency on Neonatal Intensive Care Units and Family-Centered Care: Challenges and Opportunities	Frontiers in Psychology	Perspective Article	This article details the impact of the COVID-19 pandemic on family-centered care provision for high-risk newborns and their families. Restrictions to parental (especially paternal) visitation can lead to heightened parental distress and disrupted child development due to delayed parent-infant interactions. Despite WHO recommendations that mothers with suspected or confirmed COVID-19 not be separated from their infants, hospitals in many countries are not allowing breastfeeding or skin-to-skin contact in these cases. Immediate skin-to-skin contact and breastfeeding within 2 hours of delivery make mothers more sensitive to the infant's needs and support the infant's social and bonding-related behaviors. Post-natal separation of mother and infant can also have long-term negative consequences to the child's cognitive, socio-emotional, physical, and social development. Furthermore, precautions taken by mothers with suspected or confirmed COVID-19 allowed to care for their newborns (hand hygiene, mask-wearing, and routine disinfection) may complicate the mother's relationship with her newborn. Understaffing resulting from the COVID-19 pandemic is also concerning because understaffing in NICUs has been associated with adverse outcomes in very-low-birth-weight infants. The authors conclude that online support groups and other forms of virtual peer support can help to safely empower families and support NICU staff during the COVID-19 pandemic.	This article details the impact of the COVID-19 pandemic on family-centered care provision for high-risk newborns and their families, including restrictions to parental visitation in neonatal ICUs, pandemic-related understaffing, and post-natal separation of mothers and infants.	Cena L, Biban P, Janos J, et al. The Collateral Impact of COVID-19 Emergency on Neonatal Intensive Care Units and Family-Centered Care: Challenges and Opportunities. Front Psychol. 2021;12:630594. Published 2021 Feb 24. doi:10.3389/fpsyg.2021.630594
pregnancy; COVID-19 vaccine; safety; vaccine hesitancy	24-Feb-21	Pregnant People's Paradox-Excluded From Vaccine Trials Despite Having a Higher Risk of COVID-19 Complications	Journal of the American Medical Association (JAMA)	Perspective	Despite evidence that pregnant patients have a higher risk of COVID-19 complications and death than nonpregnant people and may experience greater risk of preterm delivery with greater disease severity, many pregnant health care workers have shown hesitancy about COVID-19 vaccination. This article explores some of the reasons behind this hesitancy, citing the exclusion of pregnant and lactating individuals from research and mixed messages about the vaccine's safety as contributing factors. The author presents a timeline of conflicting recommendations regarding the safety of vaccinating pregnant and lactating people against COVID-19 throughout January 2021. While the US Centers for Disease Control and Prevention (CDC), the American College of Obstetricians and Gynecologists, and the Society for Maternal-Fetal Medicine have emphasized patient	This article explores some of the reasons behind COVID-19 vaccine hesitancy among some pregnant and lactating healthcare workers, citing the exclusion of pregnant and breastfeeding individuals from research and mixed messages about the vaccine's safety as contributing factors.	Rubin R. Pregnant People's Paradox-Excluded From Vaccine Trials Despite Having a Higher Risk of COVID-19 Complications [published online, 2021 Feb 24]. JAMA. 2021;10.1001/jama.2021.2264.

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					choice, the WHO has recommended withholding vaccines from pregnant people unless the benefit of vaccination outweighs the potential risk. A January 29, 2021 statement from the WHO clarified that its recommendations place more emphasis on guiding immunization program decisions, while the US CDC's recommendations emphasize guiding individual decision-making. Regardless, the author argues that these mixed messages stem from a longstanding exclusion of pregnant and lactating people from clinical trials. Multiple efforts are underway to collect information about pregnant individuals who have received COVID-19 vaccines, which are described briefly in this article.		doi:10.1001/jama.2021.2264
Attachment; COVID-19; Inflammation; Mental health; Pregnancy	22-Feb-21	COVID-19 threatens maternal mental health and infant development: possible paths from stress and isolation to adverse outcomes and a call for research and practice	Child Psychiatry and Human Development	Article	The COVID-19 pandemic has exposed mothers to stress and social isolation during the pre- and post-natal periods. In this brief report, the authors summarize evidence linking stress and social isolation to negative outcomes for mothers and infants and present a conceptual model featuring inflammation as a driving mechanism. There is strong evidence that the COVID-19 pandemic will affect mothers and infants through immune pathways that have been shown to link stress and social isolation during the pre- and post-natal periods, with negative impacts on maternal mental health and infant well-being and development. Pro-inflammatory mediators indirectly link perinatal and postpartum maternal stress with infant development. This process is perpetuated through breastfeeding, which passes cytokines from mothers to infants. Early inflammation in preterm infants and infants living in poverty has been linked to adverse outcomes up to age 10 years. The authors offer recommendations for research, policy, and integrated clinical care that can address the biological threats of pandemic-induced stress to infants and mothers while leveraging the anti-inflammatory effects of social support. Because social support and secure maternal-infant attachment have been shown to reduce stress-associated inflammation, the authors recommend support calls with mothers who lack social support, home visits (when safe and feasible) for at-risk mothers, and interventions to foster secure attachment relationships. Directions for future research include assessment of infant developmental and maternal mental health outcomes during COVID-19, examination of the mechanisms of resilience and risk factors, and immediate implementation and evaluation of pilot interventions.	In this brief report, the authors summarize evidence linking stress and social isolation to negative outcomes for mothers and infants and present a conceptual model featuring inflammation as a driving mechanism. They conclude with recommendations for research, policy, and integrated clinical care that can address the biological threats of pandemic-induced stress to infants and mothers while leveraging the anti-inflammatory effects of social support.	Venta A, Bick J, Bechelli J. COVID-19 threatens maternal mental health and infant development: possible paths from stress and isolation to adverse outcomes and a call for research and practice. Child Psychiatry Hum Dev. 2021;52(2):200-204. doi:10.1007/s10578-021-01140-7
human milk, viruses, SARS-CoV-2, lactoferrin, tenascin-C, immunoglobulins, docosahexaenoic acid (DHA), long-chain polyunsaturated fatty acids	22-Feb-21	The Antiviral Properties of Human Milk: A Multitude of Defence Tools from Mother Nature	Nutrients	Review	This review describes current knowledge surrounding specific and non-specific antiviral compounds in human breast milk. Breast milk is able to express direct antimicrobial action through a variety of immunoglobulin compounds, and milk from women infected with SARS-CoV-2 could have antibodies against the virus. Secretory IgA (sIgA), which is significantly expressed in breast milk, has a dual anti-infective action and provides protection from microbes while modulating neonates' intestinal immunity. Known antimicrobial compounds found in breast milk include cytokines, polyunsaturated fatty acids, immune-stimulating proteins, glycoproteins such as lactoferrin, glycated components such as mucins, human milk oligosaccharides (HMOs), and extracellular vesicles in human milk, which provide a broad spectrum of antiviral protections. Lactoferrin, in particular,	This review describes current knowledge surrounding specific and non-specific antiviral compounds in human breast milk. There are several compounds, including lactoferrin, which might have antiviral activity against SARS-CoV-2.	Morniroli D, Consales A, Crippa BL, et al. The Antiviral Properties of Human Milk: A Multitude of Defence Tools from Mother Nature. Nutrients. 2021 Feb 22;13(2):694. doi: 10.3390/nu13020694.

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(LCPUFA), mucins, human milk oligosaccharides (HMO)					has been found to have significant antiviral activity against many DNA and RNA viruses, and some studies have purported that it has an effect against SARS-CoV-2. The authors state that although not all properties or interactions of these compounds are known, further research could help identify new strategies to fight viral infections.		
public health policy; LMICs; infant mortality; infant feeding; breastfeeding; vertical transmission	22-Feb-21	A public health approach for deciding policy on infant feeding and mother–infant contact in the context of COVID-19	The Lancet Global Helth	Article	The COVID-19 pandemic has raised concern about mother-infant transmission of SARS-CoV-2 through breastfeeding and close contact, leading to conflicting recommendations. The authors present an approach for deciding public health policy on infant feeding and mother–infant contact for the COVID-19 pandemic and future outbreaks, balancing current evidence on the risk of viral infection against child survival, lifelong health, and development, and maternal health. Although SARS-CoV-2 RNA has been identified intermittently in breastmilk, no evidence exists proving transmission-competent virus or transmission via breastmilk. In a review of 7780 children in 26 countries with confirmed COVID-19, the case fatality rate was 0.09% - likely an overestimation of the true SARS-CoV-2 infection fatality rate. Preliminary data show very low infection fatality rates in infants, with most COVID-19 neonatal deaths occurring in infants delivered preterm to mothers with severe COVID-19. Conversely, early initiation of exclusive and continued breastfeeding is known to benefit infant survival and long-term health. However, mixed messages from healthcare workers and marketing of breastmilk substitutes have been shown to reduce breastfeeding rates. Using the Lives Saved Tool, public health officials and policymakers can use available data to show the impact of different public health approaches on infant mortality (0-12 months) in low- and middle-income countries (LMICs). While infant deaths in LMICs due to COVID-19 (2020–21) might range between 1,800-2,800, additional deaths among infants are estimated to range between 188,000 and 273,000 if mothers with confirmed SARS-CoV-2 infection are recommended to separate from their newborns and avoid or stop breastfeeding. These data suggest deaths among infants affected by a policy of separation and non-breastfeeding would be at least 67x greater than those potentially attributable to COVID-19.	The authors present the Lives Saved Tool, a public health approach for deciding policy on infant feeding and mother-infant contact during the COVID-19 pandemic based on currently available evidence. The authors estimate that infant deaths in low- and middle-income countries would be at least 67x greater than those attributable to infant COVID-19 under policies that promote maternal-infant separation and discourage breastfeeding.	Rollins N, Minckas N, Jehan F, et al. A public health approach for deciding policy on infant feeding and mother–infant contact in the context of COVID-19. The Lancet Global Health. 2021. https://doi.org/10.1016/S2214-109X(20)30538-6.
COVID-19; Perceived Stress Scale; SARS-CoV-2; bottle feeding; breastfeeding; emergency; pandemic; public health	22-Feb-21	Infant feeding experiences and concerns among caregivers early in the COVID-19 State of Emergency in Nova Scotia, Canada	Maternal and Child Nutrition	Original Research	The authors conducted a cross-sectional study to determine the perceptions of caregivers (n = 335) of infants younger than 6 months concerning stress and changes in infant feeding during the COVID-19 pandemic in Canada from April 17 - May 15, 2020. 77% (n = 252) of caregivers reported moderate levels of stress, with concerns about exposure to SARS-CoV-2, social isolation, and not having access to needed goods and services, including infant formula, health care, and lactation support. Caregivers found most of their information related to COVID-19 from the internet (n = 136, 59%) and social media (n = 53, 23%). The caregivers reported very few changes to infant feeding during the COVID-19 pandemic compared to before the pandemic. The authors note the social safety net in Canada as a possible explanation of no significant differences in responses seen by socio-economic status, education, ethnicity, and age, and 77% of respondents	This study examined stress and changes in feeding practices among caregivers of infants younger than 6 months in Canada during the COVID-19 pandemic. There were no significant changes to infant feeding during the COVID-19 pandemic compared to before the pandemic, but 77% of caregivers reported moderate levels of stress related to the pandemic.	Fry HL, Levin O, Kholina K, et al. Infant feeding experiences and concerns among caregivers early in the COVID-19 State of Emergency in Nova Scotia, Canada [published online, 2021 Feb 22]. Matern Child Nutr. 2021;e13154.

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					received parental benefits from the government prior to the COVID-19 pandemic. This article also contains a data table that includes sociodemographic characteristics broken down by breastfeeders (n = 200), formula feeders (n = 70), and mixed feeders (n = 65).		doi:10.1111/mcn.13154
Covid-19; SARS-CoV-2; adolescents; children; neonates; breastfeeding	22-Feb-21	Update on SARS-CoV-2 infection in children [Free Access to Abstract Only]	Paediatrics and International Child Health	Review	This review was undertaken from 1 January - 30 September 2020 to identify the more recent clinical aspects of SARS-CoV-2 infection in children. The majority of pediatric SARS-CoV-2 infections are asymptomatic (15%) or have mild (40%) and moderate (40%) signs. The hospitalization rate is 8–16 per 100,000 children (<19 years) and about 1/3 of those hospitalized may need intensive care, with a mortality rate of <3%. These rates are similar even in children with chronic diseases, e.g. kidney disease, sickle cell disease, inflammatory bowel disease, and diabetes. However, pre-existing conditions such as chronic pulmonary disease, congenital heart disease, and neurological disorders are significant risk factors for intensive care. At diagnosis, 1/3 of children may have a normal thoracic CT. Imaging findings may be unilateral or bilateral, and ground-glass opacification in the lower pulmonary lobes is the most common pattern, similar to adults. Most MIS-C patients have gastro-intestinal, cardiovascular, haematological, respiratory, dermatological, or mucocutaneous involvement. Few had COVID-19 symptoms before MIS-C onset and in those who did, the median interval from COVID-19 symptom onset to MIS-C onset was 25 days (range 6–51 days). MIS-C may be a post-infectious phenomenon related to IgG antibody-mediated enhancement of COVID-19. A higher proportion of infected newborns may be severely ill (12%), and dyspnoea is the most common sign (40%). Although viral RNA has been detected in breastmilk samples from mothers with COVID-19, several reports have shown that breastfeeding is not a route of transmission of SARS-CoV-2. Breastmilk may protect against SARS-CoV-2 or reduce disease severity in newborns by providing specific immunoglobulins from an infected mother. According to WHO recommendations, COVID-19 is not an indication for C-section alone, mothers should not be separated from newborns unless they are too ill to care for them, and neonates born to infected mothers should be breastfed within 1 hour of birth with uninterrupted skin-to-skin contact using appropriate IPC precautions.	This review presents current evidence on SARS-CoV-2 infection in neonates, children and adolescents, especially concerning the clinical presentation, imaging findings, and uncommon severe forms of the disease such as MIS-C. Current evidence regarding COVID-19 in the perinatal period is also presented.	Martins MM, Prata-Barbosa A, da Cunha AJLA. Update on SARS-CoV-2 infection in children [published online, 2021 Feb 22]. Paediatr Int Child Health. 2021;1-9. doi:10.1080/20469047.2021.1888026
COVID-19; Maternal-fetal infection transmission; Papulosquamous skin diseases.; Vertical transmission of infectious disease; Pregnancy	21-Feb-21	Coronavirus disease 2019 (COVID-19) manifestations during pregnancy in all three trimesters: A case series	International Journal of Reproductive BioMedicine	Case Series	This study was conducted to investigate the effect of COVID-19 on pregnancy and maternal/neonatal outcomes. The authors reviewed clinical characteristics, pregnancy complications, medication used, and maternal/neonatal outcomes among 16 pregnant women with COVID-19 (confirmed by 2 of 3 criteria: positive RT-PCR; abnormal chest CT or X-ray; and/or clinical symptoms of COVID-19) from March 21 to May 11, 2020 in Iran. The mean age of the patients was 30 years (range 19-37 years). 1 was in her 1st trimester, 5 in 2nd, and 10 in their 3rd trimesters. The most common symptoms were shortness of breath (n=10), dry cough (n=10), myalgia (n=8), and chills (n=7). 3 cases had papulosquamous skin lesions with fissuring. The most common laboratory results were leukocytosis (n=8), increased liver enzymes (n=6), elevated C-reactive protein (n=5), and thrombocytopenia (n=4). There was 1 case of maternal mortality, 5 of	The authors reviewed clinical characteristics, pregnancy complications, medication used, and maternal/neonatal outcomes among 16 pregnant women with COVID-19 in Iran. Clinical manifestations were similar to non-pregnant patients and there was no evidence of vertical transmission. However, premature labor pain and premature rupture of membranes were common complications. They recommend	Askary E, Poordast T, Shiravani Z, et al. Coronavirus disease 2019 (COVID-19) manifestations during pregnancy in all three trimesters: A case series. Int J Reprod Biomed. 2021;19(2):191-204. Published 2021 Feb 21.

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					premature labor pain (PLP), 2 of pre-eclampsia, and 2 of placenta accreta. 12 women delivered during the study period (9 C-section, 3 vaginal), with 6 cases of preterm labor. 8 neonates were breastfed, and none acquired SARS-CoV-2 infection. All 16 neonates had negative PCR results for SARS-CoV-2. The authors conclude that clinical manifestations were similar to non-pregnant patients and there was no evidence of vertical transmission. However, PLP and premature rupture of membranes were common complications. For these reasons, the authors recommend early diagnosis of COVID-19 in pregnant women using a combination of symptoms, exposure history, RT-PCR, and imaging findings. Patients should be monitored for thrombocytopenia, elevated D-dimer, and liver enzyme levels along with fetal and uterine contractions.	early diagnosis of COVID-19 in pregnant women; these patients should be monitored for thrombocytopenia, elevated D-dimer, and liver enzyme levels along with fetal and uterine contractions.	doi:10.18502/ijrm.v19i2.8477
COVID-19, depression, perinatal, policy, postpartum, psychiatry	21-Feb-21	Parental perception of neonatal ICU visitation during the COVID-19 pandemic	International Journal of Gynaecology and Obstetrics	Brief Communication	The authors conducted a cross-sectional survey to evaluate neonatal unit visitation policy concerns and postpartum depression among parents in Tripoli, Libya, from May-June 2020, during the COVID-19 pandemic. The survey consisted of 2 sections: 1) socio-demographic information and attitudes and perceptions toward the visitation policy; 2) a 10-item Edinburgh Postnatal Depression Scale (EPDS), scored on a 4-point (0-3) Likert scale with a maximum score of 30, which was translated into the local Arabic language and validated. 41 respondents (31 mothers (75.6%) and 8 fathers (19.5%)) were included. Participants' mean age was 32.02, ranging from 22-47 years, and the majority were university graduates (73.2%). 14 participants (34.1%) reported concerns about an inability to adequately breastfeed their child, while 10 (24.4%) reported the visitation policy's detrimental impact on breastfeeding. The authors provide participants' basic characteristics and survey responses in a table. 35 respondents (85.4%) reported an EPDS score >10, suggesting depression, and 4 respondents (9.8%) reported suicidal ideation. The mean score of EPDS was 15.66, with a range from 0-26. This study demonstrates a high prevalence of postpartum depression during the pandemic. Psychological counseling for parents via teleconsultation is critical to mitigating psychological distress.	The authors conducted a cross-sectional survey to evaluate the concerns regarding neonatal unit visitation policy and postpartum depression among parents admitted to neonatal units in Tripoli, Libya, from May-June 2020, during the COVID-19 pandemic. This study demonstrates a high prevalence of postpartum depression (85.4%) and the need for psychological counseling via teleconsultation to mitigate psychological distress.	Ashini A, Alsoufi A, Elhadi M. Parental perception of neonatal ICU visitation during the COVID-19 pandemic [published online, 2021 Feb 21]. Int J Gynaecol Obstet. 2021. doi:10.1002/ijgo.13650
child health services, challenges, pandemic, impact, inequalities	21-Feb-21	Challenges and opportunities for child health services in responses to the COVID-19 pandemic	Journal of Reproductive and Infant Psychology	Editorial	Universal child health services to address health inequalities, promote public health, identify vulnerability, and refer for additional support have been disrupted during the COVID-19 pandemic. This change will threaten children's developmental and physical health. The authors address the concern of higher family needs during the pandemic. Additionally, many universal services were already under threat before the pandemic. It is essential to measure the pandemic's direct impact on children's physical and mental health, as well as the repercussions for those unable to receive early intervention services. As healthcare is understaffed, service quality should also be reviewed. Although the pandemic has brought telehealth innovation and digital technology alternatives that decrease access barriers in some communities, digital inequalities persist in other communities. Furthermore, drawbacks to virtual health services include limited physical assessment, infant feeding teaching, routine care demonstration, mental health assessment, and injury, infection, or abuse identification. The authors argue that comparative and longitudinal data at regional, national, and	This article explains potential threats following the disruption of universal child health services during the COVID-19 pandemic. Comparative and longitudinal data at regional, national, and international levels are critical to distinguish if service provision and health outcomes 1) had declined even before the pandemic, 2) have worsened because of the pandemic, or 3) have improved because of innovative approaches arising during the pandemic.	Newham JJ, Fallon V, Darwin Z. Challenges and opportunities for child health services in responses to the COVID-19 pandemic. J Reprod Infant Psychol. 2021;39(2):111-113. doi:10.1080/02646838.2021.1890422

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					international levels are essential to distinguish whether service provision and health outcomes 1) had followed downward trajectories before the pandemic, 2) have worsened because of the pandemic, or 3) have improved because of innovative approaches arising during the pandemic.		
Pregnancy, mortality, delivery, precautions, breast feeding, contraception, vaccines	20-Feb-21	COVID-19 in Pregnancy: Pregnant Women Might be at Greater Risk for Severe COVID-19	Kathmandu University Medical Journal	Editorial	This editorial addresses the impact of SARS-CoV-2 for pregnant women. Pregnancy has been associated with increased risk of hospitalization, ICU admission, and mechanical ventilation compared with non-pregnant women, however, pregnant patients with SARS-CoV-2 do not appear to have greater risk for mortality. Complete data about pregnancy outcomes is still needed. The authors state that pregnant women should take the same precautions as the general population, seek care early for symptoms and be prioritized for testing. They also make the following recommendations: Routine antenatal care visits should be modified with use of telemedicine. Given lack of clear evidence on the ideal mode and timing of delivery for SARS-CoV-2-positive women, C-section should be reserved for obstetric indications. Universal precautions should be taken during labor, with early breast feeding encouraged for women with the use of hygiene precautions (mask, hand washing, surface sanitization). Access to effective contraception is another important intervention to reduce maternal mortality by preventing unplanned pregnancy. Finally, exclusion of pregnant and lactating women from COVID-19 research has led to lack of safety data for vaccines and therapeutics. The authors conclude that strategies to protect pregnant women from SARS-CoV-2 are a priority, and pregnant women should be given equal opportunity to be included in clinical trials.	In this editorial, the authors discuss the impact of SARS-CoV-2 for pregnant women. Pregnancy has been associated with increased risk of hospitalization, ICU admission, and mechanical ventilation but not mortality. The authors make recommendations that antenatal care should utilize telemedicine, C-section deliveries for SARS-CoV-2-positive women should be reserved for obstetric indications, and breast feeding should be encouraged with the use of hygiene precautions. Finally, they emphasize the need for inclusion of pregnant and lactating women in clinical trials to assess safety data for this population.	Dangal G. COVID-19 in Pregnancy: Pregnant Women Might be at Greater Risk for Severe COVID-19. Kathmandu Univ Med J (KUMJ). 2020;18(70):1-2.
Pregnancy, maternal health, neonate, breastfeeding	20-Feb-21	Revisiting Strategies for Maternal Health Care in the Face of COVID-19 Pandemic	Kathmandu University Medical Journal (KUMJ)	Review Article	In this review article, the authors examine published strategies for maternal health care during the COVID-19 pandemic. They searched literature from PubMed and Google Scholar, along with societal, governmental, and non-governmental organizations for updated information including the CDC, WHO, and American College of Obstetricians and Gynecologists (ACOG), among others [dates not provided]. In the article they review the following topics: SARS-CoV-2 transmission, effects of COVID-19 on pregnant women, general counseling measures for pregnant women, testing, community mitigation efforts, levels of management of critically ill COVID-19 pregnant patients, use of PPE, antenatal fetal surveillance and ultrasonography, immunization, maternal mental health, intrapartum COVID-19 infection, indications for C-section delivery, infants born to patients with suspected/confirmed COVID-19, location of the mother-infant dyad, breastfeeding, discharge, and postpartum care. In regard to breastfeeding, they report that suspected or confirmed maternal SARS-CoV-2 infection is not a contra-indication to infant feeding, and women should be counseled on ways to reduce transmission while breastfeeding. The authors conclude that OB/GYNs should commit to providing necessary prenatal care, referrals, and consultations throughout the pandemic, although modifications to health care delivery approaches may be necessary.	In this review, the authors discuss published strategies for maternal health care during the COVID-19 pandemic, covering a wide range of prenatal, intrapartum, and postpartum topics. In regard to breastfeeding, they state that suspected or confirmed maternal SARS-CoV-2 infection is not a contra-indication to infant feeding, and women should be counseled on ways to reduce transmission while breastfeeding	Shrestha N , Dangal G . Revisiting Strategies for Maternal Health Care in the Face of COVID-19 Pandemic. Kathmandu Univ Med J (KUMJ). 2020;18(70):62-67.

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COVID-19; SARS-CoV-2; Neonatal outcome; perinatal outcome; vertical transmission	16-Feb-21	Perinatal outcome and possible vertical transmission of coronavirus disease 2019: experience from North India	Clinical and Experimental Pediatrics	Original Article	The authors conducted a study of RT-PCR confirmed SARS-CoV-2 pregnant women (either symptomatic or asymptomatic) in north India from April 1-August 31, 2020, to evaluate neonatal outcomes and their risk of vertical transmission. 44 neonates (3 sets of twins) were born to 41 women (no ages given), 28 of the women delivered at the authors' institution, with 22 (78.6%) delivering at term and 6 (21.4%) before 37 weeks. All 13 that delivered at a non-COVID facility were delivered at full term. 2 maternal deaths occurred, 1 in the postpartum period from multi-organ dysfunction syndrome related to COVID-19 or HELLP syndrome (hemolysis, elevated liver enzymes, and low platelet syndrome) and the other antenatally from acute respiratory distress syndrome (ARDS). 28 (68.3%) of the deliveries occurred within 7 days of a positive SARS-CoV-2 RT-PCR. 30 neonates were born at the authors' institute, and 2 (6.6%) had positive SARS-CoV-2 nasopharyngeal swabs; both remained asymptomatic [neonatal tests were not performed for the others]. Neither positive neonatal SARS-CoV-2 test could be linked to vertical transmission. 23 samples of breast milk were tested for SARS-CoV-2, of which all resulted negative. Of all 44 neonates, 13 (29.5%) had low birth weights, 7 (15.9%) were preterm, 5 (11.4%) had APGAR scores < 7 at 5 minutes, and 6 (13.6%) required neonatal ICU admission. No neonatal deaths occurred. The authors followed all newborns for at least 2 weeks. Parents had the option to room-in or separate from their healthy newborns and 23 (52.2%) roomed-in and breastfed; all of these received a SARS-CoV-2 test at discharge and were followed for 2 weeks with no adverse outcome. The authors report that vertical transmission seems negligible and that COVID-19 seems to have little direct adverse effects on the fetus; however, further studies are needed.	The authors conducted a study of RT-PCR confirmed SARS-CoV-2 pregnant women in north India from April 1-August 31, 2020, to evaluate neonatal outcomes and the risk of vertical transmission. 30 neonates were born at the authors' institute, and 2 had positive SARS-CoV-2 nasopharyngeal swabs; both remained asymptomatic.	Sharma R, Seth S, Sharma R, Yadav S, Mishra P, Mukhopadhyay S. Perinatal outcome and possible vertical transmission of coronavirus disease 2019: experience from North India [published online, 2021 Feb 16]. Clin Exp Pediatr. 2021;10.3345/cep.2020.01704. doi:10.3345/cep.2020.01704
nurturing care of children; COVID-19; pandemic; responsive caregiving; early learning opportunities; child safety and protection	16-Feb-21	Responsive caregiving, opportunities for early learning, and children's safety and security during COVID-19: A rapid review	medRxiv	Preprint (not peer-reviewed)	The authors conducted a review of evidence on the effects of the COVID-19 pandemic and nurturing care of children (birth to 8 years) by their caregivers. 3 aspects of nurturing care were examined: responsive caregiving, early learning opportunities, and child safety and protection from violence and neglect. The authors included 112 articles in the review; the most researched topic is caregivers' mental health (>30 studies identified). This evidence suggests that the pandemic has been detrimental to caregivers' mental health, especially for single parents, parents of young children, economically vulnerable families, and those with pre-existing mental health issues. 5 studies were available that suggested there is decreased breastfeeding support during COVID-related lockdowns which has led to stopping breastfeeding earlier than wanted. According to 8 studies, father's time at home has increased and reduced gender gaps in childcare division. Evidence on early learning is limited but suggests that children living in rural or remote areas had significant disadvantages regarding access to learning modalities. Children's playtime has been reduced during the pandemic, and studies have identified more sedentary behaviors as standard. Studies have also shown that child maltreatment referrals have decreased. Child injury patterns have also changed during the pandemic, with fewer sports and playground injuries reported. The authors state that	The authors conducted a review of evidence on the effects of the COVID-19 pandemic and nurturing care of children (birth to 8 years) by their caregivers. 3 aspects of nurturing care were examined: responsive caregiving, early learning opportunities, and child safety and protection from violence and neglect.	Proulx K, Lenzi-Weisbecker R, Hatch R, et al. Responsive caregiving, opportunities for Early learning, and children's safety and security during covid-19: A rapid review. Published January 1, 2021. Accessed February 24, 2021.

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					the evidence points to the need to scale up social protection mechanisms for families and improve psychosocial service access.		
Kangaroo Mother Care, Breastfeeding, Newborn, Preterm, Low birthweight, Neonatal Mortality, COVID-19, SARS-CoV-2	15-Feb-21	Preterm care during the COVID-19 pandemic: A comparative risk analysis of neonatal deaths averted by kangaroo mother care versus mortality due to SARS-CoV-2 infection	Journal of E Clinical Medicine	Original Research	This risk analysis compares the benefits of kangaroo mother care (KMC) on neonatal survival during the COVID-19 pandemic with the risk of SARS-CoV-2 acquired through close contact with an infected mother. KMC is an evidence-based intervention to improve survival among neonates weighing 2000g or less and involves continuous skin-to-skin contact between a newborn and a mother. The COVID-19 pandemic is disrupting health services for mothers and newborns, particularly in low- and middle-income countries (LMIC), where the burden of neonatal mortality remains high. Fear of SARS-CoV-2 transmission has resulted in neonates being separated from mothers and disruptions in breastfeeding. The authors modelled 2 scenarios over 12 months using projections based on the most recent data for 127 LMICs (~90% of global births). Scenario 1 compared the survival benefits of KMC with universal coverage (99%) and mortality risk due to COVID-19. Scenario 2 estimated incremental deaths from reduced coverage and complete disruption of KMC. Scenario 1 finds that the worst-case scenario (100% transmission) could result in 1,950 neonatal deaths from COVID-19. Conversely, Scenario 2 suggests 125,680 neonatal lives could be saved with universal KMC coverage. Hence, the benefit of KMC is 65-fold higher than the mortality risk of COVID-19. The authors believe the survival benefit of KMC far outweighs the small risk of death due to COVID-19.	This risk analysis compares the benefits of kangaroo mother care (KMC) on neonatal survival during the COVID-19 pandemic with the risk of SARS-CoV-2 acquired through close contact with an infected mother. Statistical modelling of 127 LMICs suggest that the survival benefit of KMC far outweighs the small risk of death due to COVID-19.	Minckas N, Medvedev M, Adejuyigbe W, et al. Preterm care during the COVID-19 pandemic: A comparative risk analysis of neonatal deaths averted by kangaroo mother care versus mortality due to SARS-CoV-2 infection.J. E Clin Med (2021), doi.org/10.1016/j.eclinmed.2021.100733
COVID-19; infant; fever; severe	13-Feb-21	Fever Without a Source in an Infant Due to Severe Acute Respiratory Syndrome Coronavirus-2	Journal of the Pediatric Infectious Diseases Society	Case Report	The authors describe the case of a 5-week-old female patient admitted to a hospital for fever without a source and somnolence without respiratory distress who subsequently tested positive for SARS-CoV-2 in the United States in March 2020. The patient had known sick contacts, including a parent who co-presented to the emergency department for 5 days of fever, myalgia, cough, and inability to taste and smell. The infant had a normal respiratory rate and effort, clear lungs, and a complete blood count revealed leukopenia, lymphopenia, neutropenia, normocytic anemia, and normal platelets. The patient was not initially tested for SARS-CoV-2 infection due to a lack of respiratory symptoms but was later tested after her parent's test returned positive. After her positive SARS-CoV-2 result, the patient was administered acetaminophen and continued to breastfeed while the mother wore a mask. The infant had a mild clinical course, with fever resolution within about 30 hours of hospitalization. The infant was observed to have an intermittent dry cough while crying but had no increased work of breathing or respiratory distress and did not require supplemental oxygen. She was discharged on hospital day 3 with a plan for the family to isolate for 7 days from onset of symptoms or until they were symptom-free for 3 days. The authors believe that COVID-19 should be considered in the differential diagnosis for an infant who presents with fever without a source.	The authors describe the case of a 5-week-old female admitted to a hospital for fever without a source and somnolence without respiratory distress who subsequently tested positive for SARS-CoV-2 in the United States in March 2020. The infant had a mild clinical course, with fever resolution within about 30 hours of hospitalization. The authors suggest that COVID-19 should be considered in the differential diagnosis for an infant who presents with fever without a source.	Kan MJ, Grant LMC, Muña MA, Greenhow TL. Fever Without a Source in an Infant Due to Severe Acute Respiratory Syndrome Coronavirus-2. *J Pediatric Infect Dis Soc.* 2021;10(1):49-51. doi:10.1093/jpids/piaa044
COVID-19; SARS; breastfeeding; coronavirus; diarrhea; milk	13-Feb-21	Breastfeeding importance and its therapeutic potential against SARS-CoV-2	Physiological Reports	Short Review	This review discusses the effects of SARS-CoV-2 on the gastro-intestinal (GI) and respiratory tracts of infants, the benefits of breastfeeding to infant health, and gut responses to breastfeeding interruption to inform breastfeeding recommendations for mothers with SARS-CoV-2. During postnatal development, protein components and bioactive molecules in	After reviewing the effects of SARS-CoV-2 in the gastro-intestinal (GI) and respiratory tracts in infants, the benefits of breastfeeding to neonatal health,	Vasques da Costa A, Purcell Goes C, Gama P. Breastfeeding importance and its therapeutic potential

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					colostrum and breastmilk offer protection and immunostimulatory function to the gut. The authors summarize the main bioactive molecules present in human breastmilk (mucin, lactalbumin, lactadherin, casein, immunoglobulins, lactoferrin, and amino acids), their quantities, and their associated benefits to infant health. These benefits include immune system modulation, mucosal barrier protection, antimicrobial and antiparasitic action, microbial homeostasis, tissue maturation, and anti-inflammatory action. Consequently, breastfeeding is associated with decreased GI inflammation and respiratory diseases in infants. Furthermore, gastro-intestinal manifestations of COVID-19 are 2.5x more common in children than in adults. 8% of infants <1 year old have severe complications of COVID-19, and those that do often present with respiratory and GI symptoms. Since anti-SARS-CoV-2 antibodies are present in the breastmilk of SARS-CoV-2 infected mothers, the authors suggest breastfeeding may have the therapeutic potential to protect infants against COVID-19 in addition to relieving GI and respiratory symptoms; however, it is still unknown whether these antibodies can neutralize SARS-CoV-2. The authors caution that maternal separation within the first days of life can have negative consequences for infant development, immunity, and behavior. In light of these findings and the lack of data reporting the presence of SARS-CoV-2 in breast milk samples, the authors agree with WHO recommendations to maintain breastfeeding in the event of maternal SARS-CoV-2 infection.	and gut responses to breastfeeding interruption, the authors recommend mothers with SARS-CoV-2 infection continue breastfeeding their infants.	against SARS-CoV-2. Physiol Rep. 2021;9(3):e14744. doi:10.14814/phy2.14744
breast; case study; COVID-19; SARS-CoV-2; breastfeeding	13-Feb-21	A Case Study Supporting Lack of SARS-CoV-2 Spread to a 3-Month Old Infant Through Exclusive Breastfeeding	Journal of Human Lactation	Case Study	The authors describe a case to highlight the course of a SARS-CoV-2-positive mother who breastfed her infant until confirmed infection in China. A 33-year-old woman gave birth to a full-term male infant on November 8, 2019. Since birth, she had been exclusively breastfeeding the infant until she was confirmed with the SARS-CoV-2 infection on February 8, 2020, via anal swab (all throat swab samples reported negative results). She was hospitalized, isolated from her infant, and stopped breastfeeding. Even though she remained asymptomatic, her milk was expressed using a breast pump and discarded. The mother's milk sample was collected on February 9, 2020, and the result of the nucleic acid test for the presence of SARS-CoV-2 was negative. Her infant was asymptomatic and remained negative for SARS-CoV-2. Her laboratory findings and chest CT imaging were normal. She was treated according to the national protocol with aerosolized interferon α2β, lopinavir/ritonavir, and ribavirin. Her serum SARS-CoV-2 specific antibodies (IgG and IgM) tested positive when discharged. The patient returned to breastfeeding after discharge. This case provides some evidence that infant breastfeeding may be less of a risk among SARS-CoV-2-positive mothers than previously anticipated, though more research is still required to understand this better.	The authors describe the case of a 33-year-old mother who had been breastfeeding her infant since his birth in November 2019 until February 2020, when she tested positive for SARS-CoV-2 infection. She remained asymptomatic, her breast milk did not contain SARS-CoV-2, and she returned to breastfeeding after testing positive for serum IgG and IgM SARS-CoV-2 antibodies. Breastfeeding may thus not pose a risk of SARS-CoV-2 spread to infants.	Liu W, Liu Y, Liu Z, et al. A Case Study Supporting Lack of SARS-CoV-2 Spread to a 3-Month Old Infant Through Exclusive Breastfeeding. *J Hum Lact*. 2021;890334421991072. doi:10.1177/0890334421991072
COVID19; HEPA filter; SARS-CoV-2; neonate; personal protective	11-Feb-21	An unexpected Covid-19 diagnosis during emergency surgery in a neonate	Pediatric Anaesthesia	Case Report	This is a case report of emergency surgery and anesthesia in a SARS-CoV-2-positive newborn, in an area of the US with high COVID-19 prevalence [dates not given]. A 4-day-old infant with intestinal mal-rotation required emergent diagnostic laparoscopy. The child was born at 37 4/7 weeks' gestation via vaginal delivery, to a 24-year-old G2P2 Hispanic mother with a negative SARS-CoV-2 screening test. The infant was formula- and breastfed,	This is a case report of emergency surgery and anesthesia in a SARS-CoV-2-positive newborn and highlights 1) the importance of considering regional prevalence of COVID-19 infection, and 2) that age	Moreno-Duarte I, Evans AS, Alder AC, et al. An unexpected Covid-19 diagnosis during emergency surgery in a neonate.

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equipment (PPE); surgery					roomed in with her mother, and was discharged home at 48 hours. Intra-operatively, the neonate's nasopharyngeal SARS-CoV-2 test was positive, which then required modified pressure control ventilation settings, with a high-efficiency particulate air (HEPA) filter in situ. The infant was extubated on post-operative day 1 and her post-surgical course was uneventful. Neither the neonate nor the mother showed COVID-19 symptoms. This report highlights a neonate with an incidental positive SARS-CoV-2 test, no known exposure history, negative maternal PCR testing, and absence of respiratory symptoms who, for airborne precautions, required modified ventilation settings mid-surgery. The authors consider that the neonate may have received a false positive test, or the mother a false negative test. This case highlights the importance of considering regional prevalence of SARS-CoV-2 infection. The authors note that age should not be an exclusionary factor in determining person-under-investigation (PUI) status. They urge increased access to SARS-CoV-2 testing, universal testing protocols, the use of PPE for aerosol-generating procedures, and increased ventilatory vigilance and clinical correlation in neonates where HEPA filters are added to the circuit.	should not be an exclusionary factor in determining person-under-investigation (PUI) status. The authors urge increased access to SARS-CoV-2 testing, universal testing protocols, the use of PPE for aerosol-generating procedures, and increased ventilatory vigilance and clinical correlation in neonates where high-efficiency particulate air (HEPA) filters are added to the circuit.	Paediatr Anaesth. 2021. doi:10.1111/pan.14156
COVID-19; neonate; Saudi Arabia	10-Feb-21	A neonate born to an infected COVID-19 mother was tested positive just 24 hours after its birth	Clinical Case Reports	Case Report	The authors described the case of a female neonate born to a SARS-CoV-2-infected mother (aged 16 years; 37 weeks gestation) in Saudi Arabia, who tested positive for SARS-CoV-2 within 24 hrs after birth. The mother presented to the emergency department on June 13, 2020, due to premature rupture of membranes for 8 hrs and was treated with Ceftriaxone. The following day, she developed chills, fever, cough, and back pain. A nasopharyngeal swab for SARS-CoV-2 was collected since COVID-19 was suspected. She underwent vaginal delivery the same day without any complications, and the neonate was immediately separated from the mother. Breastfeeding was prevented according to the local policy of infection control for suspected newborn cases for COVID-19. Placenta histopathology was not sent. The results from the mother came back positive for COVID-19 for the mother. The female neonate was tested for SARS-CoV-2 via nasopharyngeal swab at the age of 24 hrs and returned positive, although she was asymptomatic. A repeat nasopharyngeal swab done at 48 hrs of life was negative. Both the neonate and her mother were discharged on day 5 with no complication. The neonate was monitored until day 28 of life, and she remained asymptomatic. This report is one of the few reported cases of a neonate with nasopharyngeal swab testing positive by RT-PCR for SARS-CoV-2 infection at 24 hours after vaginal delivery. Given the importance of vertical transmission, the authors suggest applying proper infection control and prevention measures, early separation, isolation, and screening neonates delivered from SARS-CoV-2 positive mothers with further close follow-up.	The authors described the case of a female neonate born to a SARS-CoV-2-infected mother (aged 16 years; 37 weeks gestation) in Saudi Arabia, who tested positive for SARS-CoV-2 within 24 hrs after birth but remained asymptomatic. Given the importance of vertical transmission, the authors suggest applying proper infection control and prevention measures, early separation, isolation, and screening neonates delivered from SARS-CoV-2 positive mothers with further close follow-up.	Huseynova RA, A Bin Mahmoud L, Huseynov O, et al. A neonate born to an infected COVID-19 mother was tested positive just 24 hours after its birth. Clin Case Rep. 2021:10.1002/ccr3.3913. doi: 10.1002/ccr3.3913.
COVID-19; epidemiology; neonatology; breast milk	10-Feb-21	SARS-CoV-2 genome and antibodies in breastmilk: a systematic	ADC Fetal and Neonatal Edition	Systematic Review	The authors conducted a systematic review and meta-analysis of studies published between January 2019 and October 2020 that included mothers with confirmed COVID-19 whose breastmilk was tested for SARS-CoV-2 by RT-PCR or for anti-SARS-CoV-2 antibodies. 50 articles were included for qualitative analysis and 48 were included for meta-analysis; there were no	Based on the results of this systematic review and meta-analysis, the authors find that SARS-CoV-2 genome presence in breastmilk is rare in samples	Zhu F, Zozaya C, Zhou Q, Det al. SARS-CoV-2 genome and antibodies in breastmilk: a

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		review and meta-analysis			study design or language restrictions. 12 out of 183 women from 48 studies were positive for SARS-CoV-2 genome in their breastmilk (pooled proportion 5% (95% CI 2% to 15%]). 6 infants (50%) of these 12 mothers tested positive for SARS-CoV-2, with 4 exhibiting symptoms and 1 had co-occurring respiratory syncytial virus requiring respiratory support. 69 out of 89 women from 10 studies had anti-SARS-CoV-2 antibody in their breastmilk (pooled proportion 83% (95% CI 32% to 98%)). The predominant antibody detected was IgA. The authors conclude that SARS-CoV-2 genome presence in breastmilk is uncommon and is associated with mild symptoms in infants. Anti-SARS-CoV-2 antibodies may be a more common finding. According to one estimate, 5%, 10%, 25% or 50% relative reductions in the prevalence of breastfeeding due to the COVID-19 pandemic can result in 16,469, 32,139, 75,455 or 138,398 child deaths, respectively, in low-income and middle-income countries in 1 year. Considering the low proportion of SARS-CoV-2 genome detected in breastmilk, its lower virulence, and the demonstrated impact of withholding breastfeeding on infant health, the authors conclude that breastfeeding should be recommended in mothers with SARS-CoV-2, after counselling and education regarding safe hygiene practices.	obtained from SARS-CoV-2 infected mothers, but anti-SARS-CoV-2 antibodies are much more common. They conclude that breastfeeding should be recommended in mothers with SARS-CoV-2, after counselling and education regarding safe hygiene practices.	systematic review and meta-analysis [published online, 2021 Feb 10]. Arch Dis Child Fetal Neonatal Ed. 2021;fetalneonatal-2020-321074. doi:10.1136/archdischild-2020-321074
breast milk; passive immunity; immunoglobulins; infectious diseases; breastfeeding; polyreactive antibody; β-coronaviruses; α-coronaviruses; neonates	9-Feb-21	Human Milk Antibodies against S1 and S2 Subunits from SARS-CoV-2, HCoV-OC43, and HCoV-229E in Mothers with a Confirmed COVID-19 PCR, Viral Symptoms, and Unexposed Mothers	International Journal of Molecular Science	Original Research	This case-control study in the United States compared the levels of antibodies reactive to SARS-CoV-2 present in the breastmilk of: women with a positive SARS-CoV-2 PCR test (n=7), women with viral symptoms during the COVID-19 pandemic but no testing done (n=20), and 2 control groups of unexposed women from data collected pre-pandemic (n=6 and n=16). Levels of IgG specific to S2 SARS-CoV-2 were 2.8 times higher in the symptomatic and PCR-diagnosed groups' breast milk than in the control groups (p=0.014). HCoV-OC43 IgG specific to S1 and S2 subunits were 4.3 times more prevalent in the PCR-diagnosed group than in the control groups (p=0.002). S1 SARS-CoV-2 IgG positively correlated with presence of S1 and S2 secretory IgA (SIgA)/IgA and secretory IgM (SIgM)/IgM; S2 SARS-CoV-2 IgG did not reflect this association. Levels of HCoV-229E IgG, SIgA/IgA, and SIgM/IgM specific to either S1 or S2 subunits did not significantly differ among the study groups. Researchers conclude that more research must be conducted to find if the SARS-CoV-2-specific antibodies have a protective effect for infants consuming the breast milk.	This case-control study found that human milk antibodies specific to SARS-CoV-2 were more prevalent in the breast milk of women diagnosed with COVID-19 via PCR test compared to antibody data collected before the COVID-19 pandemic. However, more research is needed to find if infants can gain passive immunity from consuming this human milk.	Demers-Mathieu V, DaPra C, Mathijssen G, et al. Human Milk Antibodies Against S1 and S2 Subunits from SARS-CoV-2, HCoV-OC43, and HCoV-229E in Mothers with A Confirmed COVID-19 PCR, Viral SYMPTOMS, and Unexposed Mothers. Int J Mol Sci. 2021 Feb 9;22(4):1749. doi: 10.3390/ijms22041749. PMID: 33572480.
breastfeeding; infant mortality; COVID-19; baby-friendly; SARS-CoV-2	9-Feb-21	Maternal and Infant Outcomes Associated with Maternity Practices Related to COVID-19: The COVID Mothers Study	Breastfeeding Medicine	Article	The authors conducted an online survey from May 4- September 30, 2020, of 357 mothers [from 31 countries; no age range given] and their infants <12 months old who had suspected or confirmed SARS-CoV-2 to evaluate the association between skin-to-skin care, feeding, and rooming-in with SARS-CoV-2 outcomes, breastfeeding outcomes, and maternal distress. 36.1% (129/357) of the mothers reported having confirmed or suspected COVID-19 while their infant was ≤30 days old. Among SARS-CoV-2 positive mothers whose infection was within 3 days of birth, 7.4% (6/81) of their infants tested positive. 6/357 infants (1.7%), all ≥ 1-month-old, had suspected or confirmed COVID-19 while their mother did not; of these, 4 had a positive laboratory test for SARS-CoV-2 (no specific tests mentioned). 11 infants were hospitalized overall. However, only 6 had positive SARS-CoV-2 results, and only one required mechanical ventilation. The authors found no statistically	The authors conducted an online survey of 357 mothers and their infants who had suspected or confirmed SARS-CoV-2 for the association of skin-to-skin care, feeding, and rooming-in with SARS-CoV-2 outcomes, breastfeeding outcomes, and maternal distress. Results show the odds of exclusively breastfeeding at 3 months was lower in infants kept in a separate room than within arm's reach.	Bartick MC, Valdés V, Giusti A, et al. Maternal and Infant Outcomes Associated with Maternity Practices Related to COVID-19: The COVID Mothers Study. *Breastfeed Med.* 2021;10.1089/bfm.2020.0353.

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					significant increase in infants being SARS-CoV-2 positive when comparing neonates that had experienced skin-to-skin contact for ≥1 hour to those taken from the mother within the first hour, or neonates who roomed-in at arms-reach versus those separated, or neonates fed by direct breastfeeding versus given human milk by other means. However, there was a non-significant decrease in neonatal hospitalizations for each of the 3 exposures noted. 27.9% of mothers reported a separation due to COVID-19, and 58% of those reported feeling very upset or distressed by this. 29% of the separated mothers, with separations lasting 6-7 days on average, reported being unable to breastfeed once reunited, despite trying. The odds of exclusively breastfeeding at 3 months was lower in infants kept in a separate room than within arms-reach (aOR 0.26, p=0.001). The authors suggest that separating mothers and infants could result in adverse outcomes and that medical authorities should examine the risks and benefits of separation.		doi:10.1089/bfm.2020.0353
COVID-19; SARS-CoV-2; antibodies; breastfeeding; breastmilk; human milk; neutralizing capacity	9-Feb-21	Characterization of SARS-CoV-2 RNA, Antibodies, and Neutralizing Capacity in Milk Produced by Women with COVID-19	mBio	Original Research	This US study aimed to determine whether SARS-CoV-2 can be detected in milk produced by, and on the breast skin of, women recently diagnosed with COVID-19 (n=18) using RT-qPCR analysis [time period not specified]. The authors also quantified anti-SARS-CoV-2 IgA and IgG in milk and the capacity of milk to neutralize SARS-CoV-2. Because subclinical mastitis has been associated with higher viral loads in milk, they also documented sodium-to-potassium ratios (Na/K) in milk, a biomarker of subclinical mastitis. SARS-COV-2 was not detected in any of the 37 breast milk samples collected from 18 women following COVID-19 diagnosis. Although viral RNA was detected on 8 out of 70 breast skin swabs, only 1 was considered a conclusive positive result. In contrast, 76% of the milk samples collected from women with COVID-19 contained SARS-CoV-2-specific IgA, and 80% had SARS-CoV-2-specific IgG. In addition, 62% of the milk samples were able to neutralize SARS-CoV-2 infectivity in vitro, whereas milk samples collected prior to the COVID-19 pandemic were unable to do so. Taken together, these data do not support mother-to-infant transmission of SARS-CoV-2 via milk. Importantly, milk produced by infected mothers is a beneficial source of anti-SARS-CoV-2 IgA and IgG and neutralizes SARS-CoV-2 activity. These results support recommendations to continue breastfeeding during mild-to-moderate maternal COVID-19 illness.	This study reports that 37 milk samples from 18 women following COVID-19 diagnosis did not contain SARS-CoV-2 RNA; risk of transmission via breast skin should be further evaluated. Samples often showed presence of anti-SARS-CoV-2 IgA and IgG with neutralizing activity. These results support recommendations to continue breastfeeding during mild-to-moderate maternal COVID-19 illness.	Pace RM, Williams JE, Järvinen KM, et al. Characterization of SARS-CoV-2 RNA, Antibodies, and Neutralizing Capacity in Milk Produced by Women with COVID-19. mBio. 2021;12(1):e03192-20. Published 2021 Feb 9. doi:10.1128/mBio.03192-20
COVID-19; birthing; infant feeding; post traumatic; postpartum; pregnancy	8-Feb-21	Pregnancy, Birthing, and Postpartum Experiences During COVID-19 in the United States	Frontiers in Sociology	Original Research	This study aimed to understand the impact of the COVID-19 pandemic on pregnancy, birthing, and postpartum experiences in the United States. Data were collected via an online survey in July 2020 and included responses from 34 states within the United States. The majority of the respondents were in the age range of 26-36 years [no mean/median data provided] and was heavily skewed White (88% of total responses). Findings indicate that higher perceived social support predicted higher scores of well-being (p<0.001), while higher scores of perceived loneliness insignificantly predicted lower scores of well-being (p=0.27), and higher trauma predicted lower well-being (p=0.01) measured as satisfaction with life. Their qualitative data supported these findings and also found that there were various sources of stress for respondents during pregnancy, birth, and the postpartum timeframe, particularly in terms of managing work/occupation obligations and childcare.	This study examined the impact of the COVID-19 pandemic on pregnancy, birthing, and postpartum experiences in the US. Higher perceived social support predicted higher scores of well-being, while higher scores of perceived loneliness predicted lower scores of well-being, and higher trauma predicted lower well-being. Respondents perceived that early release from the hospital reduced access to lactation	DeYoung SE, Mangum M. Pregnancy, Birthing, and Postpartum Experiences During COVID-19 in the United States. Front Sociol. 2021; 6:611212. Published 2021 Feb 8. doi:10.3389/fsoc.2021.611212

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					Furthermore, this research fills a gap in understanding infant feeding during emergencies as respondents perceived that early release from the hospital reduced access to lactation support. 75% respondents also reported receiving free samples of infant formula through a variety of sources such as via mail, the hospital, or the pediatrician's office. In light of this, the authors warn of aggressive formula marketing occurring in the United States especially during the COVID-19 pandemic.	support and 75% reported receiving infant formula samples.	
Pregnancy, vaccination, breast feeding, infants, vertical transmission	8-Feb-21	Pregnancy, Postpartum Care, and COVID-19 Vaccination in 2021	Journal of the American Medical Association (JAMA) Insights	Editorial	This article summarizes information on SARS-CoV-2 and pregnancy, postpartum care, and vaccination. Universal screening measures identified risk factors for infection during pregnancy including race/ethnicity, insurance status, and issues related to where people live (eg. high-density neighborhoods). A large study from the CDC suggested increased risk of severe complications from SARS-CoV-2 for pregnant individuals. Several studies of pregnancy outcomes also found that preterm birth might occur more often among infants born to individuals with COVID-19, although whether this is due to infection or iatrogenic causes is unknown. Intra-uterine transmission of SARS-CoV-2 appears to be rare, and transmission via breast milk appears to be unlikely. Unfortunately, pregnant individuals were excluded from early vaccine clinical trials (Pfizer-BioNTech and Moderna). However, the CDC and major obstetric professional societies (American College of Obstetrics and Gynecology (ACOG) and Society for Maternal-Fetal Medicine (SMFM)) state that pregnant individuals may choose to be vaccinated. There is no evidence that COVID-19 vaccines affect fertility, therefore is not necessary to delay pregnancy after vaccination. Data on the effects of COVID-19 vaccines on the breastfed infant are unavailable. However, the CDC and others (ACOG, SMFM) support initiating or continuing breastfeeding in a recently vaccinated individual, given the benefits of breastfeeding to the infant and what is known about the safety of other vaccines given during lactation. The authors conclude that many questions still remain regarding COVID-19 during pregnancy.	In this article, the authors summarize information regarding SARS-CoV-2 and pregnancy, postpartum care, and vaccination. Pregnant individuals with SARS-CoV-2 may be at risk for more severe disease and have higher risk for preterm birth. Intra-uterine transmission of SARS-CoV-2 appears rare, and transmission via breast milk appears unlikely. Although there is a lack of data on vaccines for pregnant women, the CDC and major obstetric societies support the option of vaccination in pregnancy and support continuation of breast feeding after vaccination.	Rasmussen SA, Jamieson DJ. Pregnancy, Postpartum Care, and COVID-19 Vaccination in 2021. JAMA. Published online February 08, 2021. doi:10.1001/jama.2021.1683
COVID-19, Breastmilk, Breastfeeding, SARS-CoV-2, Pandemic	8-Feb-21	Is SARS-CoV-2 Transmitted Through Breastfeeding?	The Indian Journal of Pediatrics	Clinical Brief	This descriptive study aims to address concerns regarding the transmission of SARS-CoV-2 from mother to neonate through breastfeeding during the COVID-19 pandemic in India. The authors studied 3,198 deliveries in a South Indian teaching hospital from April to August 2020. SARS-CoV-2 positivity among delivering mothers was 0.14%, 3.3%, and 7.8% during the months of June, July, and August, respectively. Mothers admitted for delivery were tested for SARS-CoV-2 via RT-PCR swab test. RT-qPCR for SARS-CoV-2 was done in breast milk samples from 30 SARS-CoV-2 positive mothers. Paired oropharyngeal swabs of the same neonates were also sent for RT-PCR at 48 h and on day 5 of life. All the breast milk samples were negative for SARS-CoV-2 except one. A repeat sample of breastmilk from the same mother was also negative when rechecked the next day. All the paired neonate oropharyngeal swabs were also negative for SARS-CoV-2. The mother-neonate dyads were kept together, practiced hygiene precautions and mothers exclusively breastfed their neonates. The authors report that while the SARS-CoV-2 positivity among delivering mothers increased proportionate to that of the general population, their neonates were not	The authors report that while the SARS-CoV-2 positivity among 3,198 delivering mothers in an Indian hospital in April – August 2020 increased proportionate to that of the general population, their neonates were not affected. The authors could not find evidence for transmission of SARS-CoV-2 from mother to neonate through breastmilk in the population studied.	Thanigainathan S, Kaliyaperumal V, Sivanandan S, Rengaraj S, Dhodapkar R, Bethou A. Is SARS-CoV-2 Transmitted Through Breastfeeding? Indian J Pediatr. 2021 Feb 8:1–2. doi: 10.1007/s12098-021-03681-0. Epub ahead of print. PMID: 33555566; PMCID: PMC7868520.

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					affected. Moreover, the authors could not find evidence for transmission of SARS-CoV-2 from mother to neonate through breast milk in the population studied. The authors suggest the breast milk sample which was initially positive could be due to contamination or just evidence of nonreplicating virus.		
Postpartum depression, Motherhood, Affective disorder, Edinburgh postnatal depression scale, Covid-19, breastfeeding	8-Feb-21	The need for additional mental health support for women in the postpartum period in the times of epidemic crisis	BioMed Central (BMC) Pregnancy and Childbirth	Original Research	SARS-CoV-2 infection during pregnancy and/or after delivery, restrictions on delivery and hospital stay, a change in postpartum care such as lack of midwife-woman relationship, decreased help with breastfeeding, and loss of social support may affect the mental health of mothers in the postpartum period and ultimately result in postpartum depression (PPD). To study the severity of depressive symptoms during the COVID-19 pandemic, the authors compared the severity of PPD among women during a pre-pandemic time period and during the early wave of the pandemic. Participants were screened via on-line self-assessment with the Edinburgh Postnatal Depression Scale (EPDS).The EPDS has a maximum score of 30, with two common cut-off points: 10-11 points indicate slightly increased severity of PPD whereas 12 or more points indicate a significant increase in PPD symptoms. 139 subjects were enrolled; 61 participants completed the EPDS questionnaire from October 1st - November 10th, 2019 (pre-pandemic time period) and 78 participants completed the questionnaire from February 20th - March 30th, 2020 (the first months of the COVID-19 pandemic). The mean age of subjects was 31.04 +/- 3.70 years and 31.74 +/- 5.06 years for the pre-pandemic and early pandemic periods, respectively. A statistically significant difference (p =0.025) was observed in the severity of postpartum depression symptoms as noted on the EPDS scale at the beginning of the COVID-19 epidemic in Poland (M = 15.71; SD = 6.23), compared to the pre-epidemic neutral period (M = 13.56; SD = 6.46). These results indicate the increased need for additional support of women's mental health in the postpartum period during the COVID-19 pandemic. Further, these results may be associated with limited access to support sources, such as primary healthcare, lactation consultants/clinics, and midwifery services.	The aim of this retrospective study was to identify and characterize the mental health challenges of women in the postpartum period during the COVID-19 pandemic in Poland. The results indicate the increased need for additional support of women's mental health in the postpartum period during the COVID-19 pandemic.	Chrzan-Dętkoś M, Walczak-Kozłowska T, Lipowska M. The need for additional mental health support for women in the postpartum period in the times of epidemic crisis. BMC Pregnancy Childbirth. 2021 Feb 8;21(1):114. doi: 10.1186/s12884-021-03544-8.
Antibodies; COVID-19; SARS-CoV-2; human milk; infant; neonate; vertical transmission	8-Feb-21	SARS-CoV-2 detection in human milk: a systematic review [Free Access to Abstract Only]	The Journal of Maternal-Fetal and Neonatal Medicine	Systematic Review	This systematic review synthesized current evidence regarding the presence of SARS-CoV-2 RNA in the human milk of mothers with confirmed COVID-19 and its potential role in neonatal SARS-CoV-2 infection. A search was performed in PubMed, EMBASE, and Web of Science for peer-reviewed studies published up to 15 October 2020. Studies without human milk SARS-CoV-2 RT-PCR findings were excluded. 936 records were identified, of which 34 studies (24 case-reports, 10 cohort studies) were eligible for review. Extracted data include detailed methodology, sample used for SARS-CoV-2 confirmation in mothers and neonates, details of SARS-CoV-2 RNA PCR testing in human milk, gestational age, birth weight, feeding details, separation from the mother, and COVID-19 status of the neonates. A total of 116 lactating women with confirmed COVID-19 (88 in cohort and 28 in case-reports) underwent RT-PCR testing of breast milk, of which 10 (6 in case reports) were detected to have SARS-CoV-2 RNA. The overall pooled proportion (from cohort studies) for SARS-CoV-2 RNA detection in human milk was 2.16% (95% CI: 0.0-8.81%). Only 1 study further investigated the	This systematic review synthesized evidence regarding the presence of SARS-CoV-2 RNA in the breast milk of mothers with confirmed COVID-19. The authors estimated that SARS-CoV-2 RNA is detected in breast milk in 2.16% of cases in which testing occurs but no conclusion can be drawn about its infectivity. Therefore, exclusive breastfeeding should be considered in all cases unless other contra-indications exist.	Kumar J, Meena J, Yadav A, Kumar P. SARS-CoV-2 detection in human milk: a systematic review [published online, 2021 Feb 8]. J Matern Fetal Neonatal Med. 2021;1-8. doi:10.1080/14767058.2021.1882984

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					positive sample for infectivity, and they did not find any replication-competent virus. 4 studies (6 patients) also reported the presence of SARS-CoV-2 specific antibodies (along with RT-PCR) in breast milk samples. This limited evidence suggests that SARS-CoV-2 RNA is detected in human milk in an extremely low proportion of cases; however, the authors state no conclusion can be drawn about its infectivity and impact on the infants from current evidence. In concordance with WHO recommendations, exclusive breastfeeding should be considered in all cases unless any other contra-indication exists.		
COVID-19, Vaccine, Pregnancy, Breastfeeding	8-Feb-21	COVID-19 Vaccination in Pregnant and Lactating Women	Journal of the American Medical Association (JAMA) Network	Viewpoint	This viewpoint outlines evidence to guide clinician's advice regarding mRNA vaccinations for COVID-19 in pregnant and lactating women in the absence of data for this population from vaccine trials. Preventing COVID-19 is important for both mother and fetus. A major reason neither pregnant nor lactating women were included in COVID-19 vaccine trials is the concern of liability over the potential adverse effects on a fetus. Without strategies to limit litigation, obstetric societies are left without data to guide vaccine use in pregnancy and breastfeeding. These organizations must balance the risk of SARS-CoV-2 infection to the pregnant and lactating woman with the potential or theoretical risks from the vaccine to the pregnant woman and her developing fetus or the lactating woman and her newborn. With an understanding of vaccination in pregnancy, the use of other vaccines during pregnancy such as influenza and pertussis, the efficacy and safety of COVID-19 mRNA vaccines in nonpregnant populations, and their mechanism of inducing an immune response, clinicians can outline the benefit of preventing COVID-19, as well as the undefined but possibly limited risk to the fetus, and potential benefit to the neonate. The authors advocate for clinician empathy when discussing the limited available evidence, as well as the tension over the potential benefits of vaccination weighed against the potential risks. As systematic and proactive data on COVID-19 vaccination in pregnant and lactating women are gathered, evidence-based recommendations regarding mRNA vaccination to reduce harms from COVID-19 will replace expert opinion.	The authors highlight existing use of vaccinations for pregnant and lactating women as well as the known efficacy and safety of COVID-19 mRNA vaccines in nonpregnant populations to support advice of clinicians considering vaccination of their pregnant and lactating patients.	Adhikari EH, Spong CY. COVID-19 Vaccination in Pregnant and Lactating Women. JAMA. Published online February 08, 2021. doi:10.1001/jama.2021.1658
breastfeeding; childbirth; COVID-19; maternal anxiety; pandemic; postpartum; pregnancy; questionnaires	6-Feb-21	Impact of the COVID-19 Pandemic on Maternal Anxiety in Brazil	Journal of Clinical Medicine	Original Article	The aim of the study was to determine the prevalence of maternal anxiety in late pregnancy in the context of the COVID-19 outbreak in Brazil, and to analyze its association with maternal knowledge and concerns about the pandemic. The authors conducted a cross-sectional study of 1662 women (mean age 28.2 years, SD 6.5) who received care at 10 different hospitals in Brazil from June 1-August 31, 2020. The Beck Anxiety Inventory (BAI) was used to measure maternal anxiety, and anxiety levels are defined as: minimal (0–7 points), mild (8–15), moderate (16–25), and severe (26–63). All women were >36 weeks' gestation at the time of the study. 13.9% of women presented moderate anxiety, and 9.6% of women presented severe maternal anxiety. Moderate or severe maternal anxiety was related to social factors such as secondary education level (aOR 1.66, 95% CI 1.21–2.29, p=0.002), alcohol consumption (aOR 3.5, 95% CI 1.94–6.14, p<0.001), and having a family member diagnosed with COVID-19 (aOR 1.88, 95% CI 1.11–3.16, p=0.019). Moderate or severe maternal anxiety was independently	The aim of this study was to determine the prevalence of maternal anxiety in late pregnancy in the context of the COVID-19 outbreak in Brazil, and to analyze its association with maternal knowledge and concerns about the pandemic. The authors concluded that COVID-19 has a significant impact on maternal anxiety, especially with concerns about limitations on companions during childbirth and breastfeeding safety.	Nomura R, Tavares I, Ubinha AC, et al. Impact of the COVID-19 Pandemic on Maternal Anxiety in Brazil. J Clin Med. 2021;10(4):620. doi:10.3390/jcm10040620

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					associated with the fear of being unaccompanied at childbirth (aOR 1.12, 95% CI 1.10–1.35, p<0.001). Protective factors were confidence in knowing how to protect oneself from COVID-19 (aOR 0.89, 95% CI 0.82-0.97, p=0.007) and how to safely breastfeed (aOR 0.89, 95% CI 0.83-0.95, p=0.001). The authors concluded that COVID-19 has a significant impact on maternal anxiety, especially with concerns about limitations on companions during childbirth and breastfeeding safety.		
SARS-CoV-2 IgG antibodies, cord blood, newborn, Moderna vaccination, COVID-19	5-Feb-21	Newborn Antibodies to SARS-CoV-2 detected in cord blood after maternal vaccination	medRxiv	Preprint (not peer-reviewed)	This is a case report of the first known infant with SARS-CoV-2 IgG antibodies detectable in cord blood after maternal vaccination. Maternal vaccination was provided to a COVID-19-naïve front-line healthcare worker with the Moderna mRNA COVID-19 vaccine, at gestational age of 36 weeks 3 days [location not stated]. A normal, spontaneous vaginal birth occurred 3 weeks after dose 1 of the Moderna vaccine, resulting with a healthy, full-term girl with normal newborn nursery course and subsequent well-infant evaluation. The mother, who has been breastfeeding exclusively, then received the second dose of the Moderna vaccine during the post-partum period per the normal 28-day vaccination protocol timeline. Cord blood SARS-CoV-2 IgG antibodies were detected at a level of 1.31 U/mL. The authors state that this demonstrates a potential for SARS-CoV-2 protection and infection risk reduction with maternal vaccination, although protective efficacy in newborns and ideal timing of maternal vaccination remains unknown. They conclude that further studies are needed to quantify the amount of viral neutralizing antibodies present in infants born to SARS-CoV-2-naïve mothers who are vaccinated prior to delivery. Additionally, the duration of antibody protection in this population is not yet known.	This case report evaluates the first known infant with SARS-CoV-2 IgG antibodies detectable in cord blood after maternal vaccination. Maternal vaccination was provided to a COVID-19-naïve front-line healthcare worker with the Moderna mRNA COVID-19 vaccine, at gestational age of 36 weeks 3 days. Cord blood SARS-CoV-2 IgG antibodies were detected at a level of 1.31 U/mL.	Gilbert, P., & Rudnick, C. (2021). Newborn Antibodies to SARS-CoV-2 detected in cord blood after maternal vaccination. MedRxiv [preprint]. https://doi.org/10.1101/2021.02.03.21250579
COVID-19, SARS-CoV-2, neonates, low-middle-income setting	5-Feb-21	A single-center observational study on clinical features and outcomes of 21 SARS-CoV-2-infected neonates from India	European Journal of Pediatrics	Original Research	This retrospective, single-center, observational study describes the clinical characteristics, laboratory findings, management, and outcomes of SARS-CoV-2-infected neonates. The study included 198 neonates at a level IIIb neonatal ICU (NICU) in Maharashtra, India, a low-middle-income setting, with suspected SARS-CoV-2 infection, due to exposure or symptoms, from 15 April to 31 July 2020. 21 (10.6%) neonates tested positive for SARS-CoV-2 through a nasopharyngeal swab. 7 of these neonates developed COVID-19 symptoms (33.3%), many of which were respiratory or gastro-intestinal. 3 preterm neonates had respiratory distress syndrome, of which 2 required non-invasive ventilation and 1 required invasive ventilation. All 21 SARS-CoV-2-infected neonates improved and were discharged. 19.1% of infected neonates were born preterm, and 42.9% were born at low birth weight. Raised inflammatory markers in >2/3 of cases suggested a systemic inflammatory response. A majority of neonates roomed-in with their mothers and were exclusively breastfed, making horizontal, rather than vertical, transmission likely. The authors state that the benefits of breastfeeding outweigh the risk of viral transmission, especially in developing countries where artificial feedings have been associated with significant morbidity and mortality, but concerns arise from the detection of viral RNA in breast milk. This study is limited by its retrospective design and no SARS-CoV-2 results from amniotic fluid, placental membrane, and breast milk sources. The authors summarize that most SARS-CoV-2-infected	This retrospective, observational, single-center study evaluated 21 SARS-CoV-2-infected neonates in Maharashtra, India. Most SARS-CoV-2-infected neonates showed a mild clinical profile, though a subset required ventilation, and all recovered. A majority of neonates roomed-in with their mothers and were exclusively breastfed, and the authors assert this makes horizontal, rather than vertical, transmission likely.	Nanavati R, Mascarenhas D, Goyal M, et al. A single-center observational study on clinical features and outcomes of 21 SARS-CoV-2-infected neonates from India. Eur J Pediatr. 2021 Feb 5:1–12. doi: 10.1007/s00431-021-03967-7

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					neonates showed a mild clinical profile, though a subset required ventilation.		
Neonatal Covid-19 infection; Perinatal transmission; COVID-19; SARS-CoV-2	4-Feb-21	Prevalence and Risk Factors of Neonatal COVID-19 Infection: A Single-Centre Observational Study	Journal of Obstetrics and Gynaecology India	Original Research	The aim of the study was to estimate the prevalence and determine the risk factors for neonatal SARS-CoV-2 infection. The authors conducted a retrospective analysis of 223 deliveries of SARS-CoV-2-infected mothers in a tertiary care center in North Kerala, India from April 15-October 15, 2020. Of the 223 deliveries, 2 were intra-uterine fetal demises, and 14.47% of newborns were positive for SARS-CoV-2 infection. The risk of neonatal SARS-CoV-2 infection in the vaginal delivery group was higher than the risk in the caesarean group (OR 1.389 [no CIs or p-values given]). There was a similar risk of neonatal SARS-CoV-2 infection between mothers who delivered while positive and after testing negative (OR 0.9688). 16.28% (14/86) of infants delivered within 7 days of mothers testing negative became positive, compared to 8.7% (2/23) of infants delivered between 7-14 days of negative result (OR 2.04). None of the infants delivered 14 days after mother's negative result were positive. The breastfeeding and rooming-in group (18.79%) had more infection than those infants who were not breastfed and separated from mother (1.78%) (OR 12.72). The authors concluded that neonatal SARS-CoV-2 infection was not rare, and that neonates delivered vaginally and who are breastfed and allowed to stay with mothers are at higher risk of SARS-CoV-2 infection.	The aim of the study was to estimate the prevalence and determine the risk factors for neonatal SARS-CoV-2 infection in India. The authors concluded that neonatal SARS-CoV-2 infection was not rare and that neonates delivered vaginally (OR 1.389) and who are breastfed and allowed to stay with mothers (OR 12.72) are at higher risk of SARS-CoV-2 infection.	Ajith S, Reshmi VP, Nambiar S, et al. Prevalence and Risk Factors of Neonatal Covid-19 Infection: A Single-Centre Observational Study. J Obstet Gynaecol India. 2021;1-4. doi:10.1007/s13224-021-01436-7
Breastfeeding, vaccination, breast milk, safety, trials, infants	4-Feb-21	Breastfeed or be vaccinated—an unreasonable default recommendation	The Lancet	Correspondence	The authors of this correspondence fear that given the lack of COVID-19 vaccines trialed in breastfeeding women, many clinicians will recommend against taking the vaccine when breastfeeding. Those most immediately impacted by this advice are breastfeeding women working as front-line health care providers and caregivers, who might be required to choose between their own health, their infant's health, and potentially their job. The authors then highlight that human milk is not a vector for SARS-CoV-2. Moreover, breast milk contains antibodies that could potentially protect the breastfed infant from COVID-19. Although there is a need for research to determine whether the vaccines enter the milk and transfer to the infant, the authors state that even if they do, there is still not a plausible reason to recommend against vaccination for breastfeeding women. Antibodies generated in response to the vaccine should protect the breastfeeding women and the breastfed infants. The American College of Obstetricians and Gynecologists stated that "COVID-19 vaccines be offered to lactating individuals similar to non-lactating individuals when they meet criteria for receipt of the vaccine". The authors conclude that vaccine manufacturers and regulators must work closely with lactation scientists, infectious disease specialists, and public health experts to assess vaccine safety in breastfeeding women at early stages of product development.	The authors of this correspondence express their fear that given the lack of COVID-19 vaccines trialed in breastfeeding women, many clinicians will recommend against taking the vaccine when breastfeeding, despite the potential maternal and infant benefits of vaccination. Antibodies generated in response to the vaccine should protect the breastfeeding women and the breastfed infants. They conclude that vaccine safety in breastfeeding women should be assessed at early stages of product development.	Merewood A, Bode L, Davanzo R, Perez-Escamilla R. Breastfeed or be vaccinated—an unreasonable default recommendation. Lancet. 2021; doi.org/10.1016/S0140-6736(21)00197-5
breastfeeding; donor human milk; SARS-CoV-2; skin-to-skin	3-Feb-21	Promoting and Protecting Human Milk and Breastfeeding in	Frontiers in Pediatrics	Review Article	This review summarizes the impact of the COVID-19 pandemic on breastfeeding and access to donor human milk. Despite recommendations from the WHO to promote early, direct breastfeeding and skin-to-skin contact, these recommendations are not being followed in the clinical setting. For example, some hospitals have limited or no parental visitation to	This review summarizes the impact of the COVID-19 pandemic on breastfeeding, and presents a call to action to protect breastfeeding and access to donor human milk.	Spatz DL, Davanzo R, Müller JA, et al. Promoting and protecting human milk and breastfeeding in a

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contact; neonates		a COVID-19 World			infants in the neonatal ICU, while others are discharging mothers and their newborns as early as 24 hours post-birth, limiting the amount of time to receive lactation care, education, and technical assistance. Guidelines on post-partum practices (such as skin-to-skin contact) for mothers with SARS-CoV-2 infection are highly variable and confusing. A study from Italy reported that among 146 mothers with COVID-19, 73% were breastfeeding but only 15% practiced skin-to-skin contact. The authors recommend mothers with COVID-19 practice exclusive breastfeeding and skin-to-skin contact, wearing a mask, avoiding coughing, and washing their hands and breast with soap and water prior to feeding. If a mother is too unwell to breastfeed directly, an alternate caregiver can feed with expressed milk; instructions for pump hygiene are provided. If the mother cannot breastfeed and expressed maternal milk is not available, pasteurized donor human milk (PDHM) is a better choice than infant formula whenever it is available. When quantities are limited, PDHM should be prioritized for very low birth weight infants. To address disruptions to PDHM supply, the authors suggest policy leaders prioritize human milk nutrition for vulnerable neonates during emergencies, fund research to improve human milk bank systems' response to infectious threats, invest in innovation of milk banking processes, and integrate these innovations into emergency response planning. Globally, only 41% of newborns receive breastmilk in the first 6 months of life; the authors suggest using the pandemic to underscore the importance of human milk and breastfeeding as a lifesaving medical intervention.	The authors recommend mothers with COVID-19 practice exclusive breastfeeding and skin-to-skin contact. Strategies for protecting the supply of donor human milk are also discussed.	COVID-19 world. Frontiers in Pediatrics. 2021;8:1000. https://www.frontiersin.org/article/10.3389/fped.2020.633700.
breast milk; human milk banks; breastfeeding, neonatal health	2-Feb-21	It's time to change the recommendations on COVID-19 and human milk donations	Acta Paediatrica	Perspective	Donor human milk from certified milk banks is the preferred alternative for providing preterm infants with nutrition if their mother's own milk is insufficient or not available. During the COVID-19 pandemic, mothers who have tested positive for SARS-CoV-2 have been temporarily excluded from donating milk, which has disrupted milk collection in many places. The authors consider this to have been an appropriate precautionary measure early in the pandemic, but argue that it is no longer appropriate in light of current data. They offer 5 key points in support of their argument: 1) COVID-19 is rare in newborn infants and usually benign; 2) milk donation and human milk banks already operate under strict hygiene rules; 3) SARS-CoV-2 RNA is rarely found in breast milk, and there is still no evidence of its presence resulting in transmission to the newborn; 4) SARS-CoV-2 is eliminated by Holder pasteurization; and 5) antibodies specific to SARS-CoV-2 have been detected in breast milk of SARS-CoV-2 positive mothers, although their protective roles have yet to be demonstrated. They recommend milk banks screen potential donors for symptoms of COVID-19 or a positive SARS-CoV-2 test and delay milk collection from symptomatic mothers until they are no longer contagious (at minimum 7 days after symptom onset or positive SARS-CoV-2 test and at least 48 hours after symptoms have subsided). If necessary, milk collected during the symptomatic period can later be pasteurized. The authors will continue to review this strategy as new evidence becomes available.	The authors provide evidence that excluding mothers who have tested positive for SARS-CoV-2 from donating breast milk is no longer appropriate in light of current data. They recommend allowing symptomatic mothers to donate milk after they are no longer contagious to ensure adequate milk supply is available for preterm infants who need it.	Picaud JC, Buffin R, Rigourd V, et al. It's time to change the recommendations on COVID-19 and human milk donations [published online, 2021 Feb 2]. Acta Paediatr. 2021;10.1111/apa.15782. doi:10.1111/apa.15782

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Coronavirus disease 2019 (COVID-19); neonates; pregnant women; severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2); vertical transmission	1-Feb-21	Is there possibility of vertical transmission of COVID-19: a systematic review	Translational Pediatrics	Systematic Review	In order to investigate the clinical features of COVID-19 in pregnant women and examine evidence of SARS-CoV-2 vertical transmission, a systematic review was conducted for articles published January 1, 2000 to October 25, 2020. Of 711 retrieved articles, 29 were included for review: 13 case series and 16 case reports, including a total of 564 pregnant women with COVID-19 and their 555 neonates. Among the 522 patients who delivered successfully, 104 (19.92%) women delivered preterm and 328 (62.84%) delivered by C-section. Of the 555 neonates, 549 received nucleic acid tests for SARS-CoV-2 and 3.28% (18/549) tested positive. Of these 18 neonates, 13 reported timing of COVID-19 diagnosis (time of testing not indicated); of these 13, 11 were diagnosed within 3 days of birth and 2 were diagnosed on day 5. 134 (24.41%) cases tested samples of amniotic fluid, placental tissue, vaginal secretions, breast milk, umbilical cord blood. All samples tested negative, except for one sample of amniotic fluid. In this case, the infant had been immediately separated from the mother after birth and fed infant formula under strict infection control protocols; the infant subsequently tested positive for SARS-CoV-2 but without symptoms. The majority of infected neonates were born under strict infection control and received isolation and artificial feeding, with exception of 5 neonates who were with their mothers for 30 min in the operating room before isolation. The authors conclude that there is no sufficient evidence to exclude the possibility of vertical transmission of SARS-CoV-2 based on currently available data.	Based on a systematic review include 29 case reports and case series comprising 564 pregnant women with COVID-19 and their 555 neonates, the authors estimated a SARS-CoV-2 positivity rate of 3.28% among the tested neonates. Of the 134 cases that had samples of amniotic fluid, placental tissue, vaginal secretions, breast milk, and umbilical cord blood tested for SARS-CoV-2, only one sample of amniotic fluid tested positive.	Yuan J, Qian H, Cao S, et al. Is there possibility of vertical transmission of COVID-19: a systematic review. Transl Pediatr. 2021;10(2):423-434. doi:10.21037/tp-20-144
COVID-19, placenta pathology, vertical transmission, perinatal effect	1-Feb-21	Clinical Characteristics of Mother–Infant Dyad and Placental Pathology in COVID-19 Cases in Predominantly African American Population	American Journal of Perinatology Reports	Original Research	This cross-sectional study examined clinical outcomes and placental pathology for women with COVID-19 giving birth in inner city Detroit, Michigan, USA. The study was conducted from March 11 - July 31, 2020, first studying only symptomatic women, but including asymptomatic patients after April 21; all contracted COVID-19 during their third trimester. 34 women (87% African-American) were included in the study (median gestational age = 38 weeks; IQR 37-39 weeks). 76% experienced no complications during or after birth, and only 15% had respiratory symptoms due to COVID-19. 65% of infants in the study were delivered vaginally, and none were noted to have morphological abnormalities. 9% of neonates received breast milk exclusively, 65% were formula fed only, and 26% received a combination. Placental tissue evaluations found that 26% had no pathologic findings, another 26% had acute inflammatory lesions, and 24% had chronic inflammatory lesions. 12% of total placentas showed villous hypervascularization, which is normally reported in 5-10% of placentas and associated with decreased maternal oxygen tension. Although the researchers conclude that there are clinical abnormalities in placental tissue of patients with COVID-19, more research into their perinatal outcomes is needed to understand these differences.	This cross-sectional study out of Detroit, Michigan, USA found that women who gave birth while diagnosed with COVID-19 had few complications associated with labor, underwent a variety of delivery methods, and utilized a variety of neonatal feeding methods. Placental tissue abnormalities were found, but require additional research to understand.	Jani S, Jacques SM, Qureshi F, et al. Clinical Characteristics of Mother-Infant Dyad and Placental Pathology in COVID-19 Cases in Predominantly African American Population. AJP Rep. 2021;11(1):e15-e20. doi:10.1055/s-0040-1721673

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Counseling; COVID-19Vaccination; Informed Consent; Shared Decision Making; breastfeeding	1-Feb-21	Professionally Responsible COVID-19 Vaccination Counseling of Obstetric/Gynecologic Patients: Counseling Patients about COVID-19 Vaccination	American Journal of Obstetrics and Gynecology	Clinical Opinion	This clinical opinion focuses on determining the most effective approach in counseling patients who are pregnant, planning to become pregnant, breastfeeding or planning to breastfeed about COVID-19 vaccination. There is evidence that a health care provider's recommendation for vaccination is the most important factor in maternal decision-making. The authors acknowledge that barriers to this process include a limited evidence base, documented increased risk of severe COVID-19 in pregnant patients, conflicting guidance from government agencies and professional associations, false information about COVID-19 vaccines, and maternal mistrust and vaccine hesitancy. The authors state that when providing professionally responsible COVID-19 vaccine counseling, it is important to use available data to weigh benefits and risks of the vaccine. They report that in evidence-based clinical judgment, documented benefits and risks of COVID-19 vaccination for pregnant patients count more than theoretical risks and harms. Further, they state that there is a very low incidence of complications from vaccination, and these have been transient and treatable. The authors also emphasize the importance of empowering patients to make informed decisions. In counseling women who are breastfeeding or planning to breastfeed, the authors discuss that there is no evidence that the vaccine contaminates breast milk; they acknowledge that the biopsychosocial benefits for the neonatal patient are well-established, and SARS-CoV-2 antibodies have been detected in breastmilk in infected patients, potentially providing additional immunity to the newborn. If a patient refuses vaccination, the provider should ask the patient to express their hesitation and reasons for it, and respectfully address them.	This article focuses on determining the most effective approach in counseling patients who are pregnant, planning to become pregnant, breastfeeding or planning to breastfeed about COVID-19 vaccination. Barriers to this process include a limited evidence base, documented increased risk of severe COVID-19 in pregnant patients, conflicting guidance, false information about COVID-19 vaccines, and maternal mistrust and vaccine hesitancy.	Chervenak FA, McCullough LB, Bornstein E, et al. Professionally Responsible COVID-19 Vaccination Counseling of Obstetric/Gynecologic Patients: Counseling Patients about COVID-19 Vaccination. American Journal of Obstetrics and Gynecology. 2021. doi:10.1016/j.ajog.2021.01.027
SARS-CoV-2; vaccine safety; COVID-19; maternal immunity; lactation	30-Jan-21	The COVID-19 vaccine in pregnancy: Risks benefits and recommendations	American Journal of Obstetrics and Gynecology	Review	The authors share a review of maternal and neonatal COVID-19 morbidity and mortality and perinatal vaccine safety considerations to assist US providers with shared decision-making regarding vaccination of pregnant women against COVID-19. Both the Pfizer-BioNTech's (for adults ≥ 16 years) mRNA COVID-19 vaccine and the Moderna, Inc. (for adults ≥ 18 years) vaccine were approved with 95% and 94.1% efficacies, respectively, against symptomatic COVID-19. The Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices, with support from the Society for Maternal Fetal Medicine (SMFM) and the American College of Obstetricians (ACOG), issued a recommendation to offer COVID-19 vaccines to eligible pregnant and lactating women if counseling is provided on the risks and benefits of the vaccine. CDC data has shown an increased risk of ICU admissions (adjusted risk ratio [aRR] 3.0, 95% CI 2.6-3.4) and deaths (aRR 1.7, 95% CI 1.2-2.4) in pregnant patients with symptomatic COVID-19. The CDC, SMFM, and ACOG have included pregnancy as a risk factor for severe COVID-19 illness. Current data suggest a 2-3% risk of vertical transmission from mother to the neonate with a minimal neonatal infection rate. SARS-CoV-2 is not routinely detected in amniotic fluid, cord blood, or neonatal nasopharyngeal samples from affected pregnancies. Viral mRNA has been detected in infected mothers' breast milk; however, there is no evidence showing an increased risk of transmission to newborns from ingestion. Counseling needs to include that no human trials demonstrating	The authors share a review of maternal and neonatal COVID-19 morbidity and mortality and perinatal vaccine safety considerations to assist US providers with shared decision-making regarding vaccination of pregnant women against COVID-19.	Stafford IA, Parchem JG, Sibai BM. The COVID-19 vaccine in pregnancy: risks benefits and recommendations [published online ahead of print, 2021 Jan 30]. *Am J Obstet Gynecol.* 2021;S0002-9378(21)00077-6. doi:10.1016/j.ajog.2021.01.022

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					fetal and neonatal safety with COVID-19 vaccines have occurred, although 36 pregnancies were reported in the Pfizer and Moderna trials (18 in the vaccine arm). The data from those pregnancies are not yet available. ACOG and other experts agree that vaccination poses minimal risks to the breastfed newborn, given that vaccine-related mRNA has not been detected in breastmilk studies. The authors stress the need to inform pregnant and lactating women of the risks and benefits of the COVID-19 vaccination and suggest that it may limit maternal COVID-19 morbidity and mortality.		
newborn care; neonates; breastfeeding; separation; United States	29-Jan-21	Perinatal COVID-19: guideline development, implementation, and challenges [Free Access to Abstract Only]	Current Opinion in Pediatrics	Review	This review describes the process and challenges in developing US national guidance for management of infants born to mothers with COVID-19. As pregnant women began to present for delivery while sick with COVID-19, the American Academy of Pediatrics (AAP) convened a writing group in March 2020 to develop guidance for the management of their newborns. The initial guidance advocated for a conservative approach that included temporary physical separation of the infected mother and newborn based on extremely limited data from China. On the basis of limited data and experience with other respiratory viruses, the initial guidance assumed that breast milk would not be a source of neonatal infection and advised feeding with expressed breastmilk during periods of separation. To address the knowledge deficit, the AAP sponsored a volunteer registry to collect data on perinatal infection and management. As data emerged on the epidemiology of COVID-19, the performance of PCR-based diagnostics, the value of infection control measures and the risk of infant disease, AAP issued serial updates to newborn guidance. The most recent guidance (issued September 2020) focuses on the use of infection control measures to support maternal-newborn contact, rooming-in, and breastfeeding. The authors note that initial guidance was purposefully conservative in the absence of sufficient data; in light of these challenges, they call for the creation of a national population-based, longitudinal birth registry for driving evidence-based perinatal medicine during a pandemic.	This review describes the process and challenges in developing US national guidance for management of infants born to mothers with COVID-19. While initial guidance from the American Academy of Pediatrics (AAP) recommended temporary separating newborns from SARS-CoV-2 infected mothers and feeding with expressed breastmilk, revised guidance focuses on the use of infection control measures to support maternal-newborn contact, rooming-in, and breastfeeding. The authors call for a national population-based, longitudinal birth registry for driving evidence-based perinatal medicine during a pandemic.	Flannery DD, Puopolo KM. Perinatal COVID-19: guideline development, implementation, and challenges. Curr Opin Pediatr. 2021;33(2):188-194. doi:10.1097/MOP.0000000000000997
COVID-19; pregnancy; maternal health; neonatal outcome; Poland	29-Jan-21	COVID-19 impact on perinatal care: risk factors, clinical manifestation and prophylaxis. Polish experts' opinion for December 2020	Ginekologia Polska	Review	The authors discussed the impact of the COVID-19 pandemic on perinatal care of pregnant women and newborns who require special clinical management during hospitalization, based on Polish expert opinion and information available as of December 2020. Clinical course of the disease mainly includes symptoms such as cough, dyspnea, and fever, and among some patients, can deteriorate even further to acute respiratory distress syndrome (ARDS) and death. There is currently insufficient evidence that coronavirus infection (SARS, MERS, or SARS-CoV-2) has a negative impact on the incidence of fetal defects. The estimated frequency of SARS-CoV-2 infection by vertical transmission may be 2.6%, according to a US CDC report. Rates of SARS-CoV-2 infection in neonates do not seem affected by mode of delivery, feeding, nor by direct contact with a mother with suspected or confirmed SARS-CoV-2 infection. The vast majority of pregnant women with COVID-19 are only mildly symptomatic; however, cases of severe disease with pneumonia and respiratory failure have also been observed. In infected pregnant women who have pneumonia with oxygen saturation <94%, in the hyper-immune phase (which usually occurs after 7	The authors discussed the impact of the COVID-19 pandemic on perinatal care of pregnant women and newborns who require special clinical management during hospitalization, based on Polish expert opinion and information available as of December 2020. The estimated frequency of SARS-CoV-2 infection by vertical transmission may be 2.6%, according to a US CDC report. Rates of SARS-CoV-2 infection in neonates do not seem affected by mode of delivery, feeding, nor by direct contact with a mother with	Kalinka J, Wielgos M, Leszczynska-Gorzelak B, et al. COVID-19 impact on perinatal care: risk factors, clinical manifestation and prophylaxis. Polish experts' opinion for December 2020. Ginekol Pol. 2021;92(1):57-63. doi:10.5603/GP.a2021.0023.

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					days of treatment), the use of tocilizumab should be considered. In patients requiring hospitalization, glucocorticosteroids, prophylactic low-molecular-weight heparin, and antibiotics should be used simultaneously.	suspected confirmed SARS-CoV-2 infection.	
infectious diseases; neonatology; obstetrics; public health	29-Jan-21	Pregnancy and neonatal outcomes in COVID-19: study protocol for a global registry of women with suspected or confirmed SARS-CoV-2 infection in pregnancy and their neonates, understanding natural history to guide treatment and prevention	British Medical Journal (BMJ)	Protocol	This article describes the study protocol for the Pregnancy and Neonatal Outcomes in COVID-19 (PAN-COVID) global registry. This observational study will collect focused data on the outcomes of pregnant mothers (18-50 years old) who have had suspected COVID-19 or confirmed SARS-CoV-2 infection between January 2020 and March 2021 along with outcomes of their newborns. Among the women recruited to the PAN-COVID registry, the study will evaluate the incidence of: (1) miscarriage and pregnancy loss, (2) fetal growth restriction and stillbirth, (3) preterm delivery, (4) vertical transmission (suspected or confirmed) and early onset neonatal SARS-CoV-2 infection. Data collected will include participant demographics, COVID-19 symptoms, COVID-19 treatment, maternal outcomes, delivery details, postnatal outcomes (whether the infants were breastfed or separated from the mother until discharge), and neonatal outcomes.	This study protocol describes the Pregnancy and Neonatal Outcomes in COVID-19 (PAN-COVID) global registry, an observational study collecting focused data on the outcomes of pregnant mothers who have had suspected COVID-19 or confirmed SARS-CoV-2 infection along with outcomes of their newborns.	Banerjee J, Mullins E, Townson J, et al. Pregnancy and neonatal outcomes in COVID-19: study protocol for a global registry of women with suspected or confirmed SARS-CoV-2 infection in pregnancy and their neonates, understanding natural history to guide treatment and prevention. BMJ Open. 2021;11(1):e041247. Published 2021 Jan 29. doi:10.1136/bmjopen-2020-041247
COVID-19; pregnancy; vertical transmission; fertilization; prenatal care	29-Jan-21	COVID-19: Uncertainties from Conception to Birth	Revista Brasileira de Ginecologia e Obstetricia	Review	In this review, the authors compiled data available on the association of COVID-19 and reproductive events, from conception to birth. To date, it is not known if SARS-CoV-2 affects reproductive function via the ACE2 receptors, and the impact on the quality of gametes, embryo development and implantation, or early pregnancy. There are divergent findings about SARS-CoV-2 in semen that support the need for larger studies to assess the possibility of transmission by sexual contact. The authors report that likelihood of intra-uterine maternal-fetal transmission of coronaviruses is low. To date, it cannot be said that the placental barrier is capable of preventing the vertical transmission of SARS-CoV-2. Data available to date suggest that COVID-19 is uncommon among newborns, who are frequently asymptomatic. Furthermore, a higher risk of infection is not associated with vaginal birth, breastfeeding, or close contact with an infected mother. However, the authors advise rigorously testing pregnant women before delivery or the first contact with the newborns. With limited evidence available concerning uncertainties from conception to birth, the authors discuss the possibility of postponing pregnancy to a post-COVID-19 era, or until an effective and broadly-distributed vaccine is available.	In this review, the authors compiled data available on the association of COVID-19 and reproductive events, from conception to birth. Data available to date suggest that COVID-19 infection is uncommon among newborns, who are frequently asymptomatic. Furthermore, a higher risk of infection is not associated with vaginal birth, breastfeeding, or close contact with an infected mother.	Carvalho BR, Adami KS, Gonçalves-Ferri WA, et al. COVID-19: Uncertainties from Conception to Birth. Rev Bras Ginecol Obstet. 2021;43(1):54-60. English. doi:10.1055/s-0040-1721856.
COVID-19; vaccine; SARS-CoV-2; shared decision-making; pregnancy; breastfeeding	27-Jan-21	Pregnancy, breastfeeding and the SARS-CoV-2 vaccine: An ethics-based framework for	Canadian Medical Association Journal (CMAJ)	Commentary	The authors propose that pregnant or breastfeeding women should be offered the SARS-CoV-2 vaccine on ethical grounds, suggesting the use of shared-decision making to guide such discussions. They note that categorical exclusion of pregnant/breastfeeding women from obtaining vaccines limits their autonomy and lacks considerations of individual factors such as values and personal circumstances, arguing that withholding the vaccine is ethically justified only if clear, substantial, and imminent maternal and fetal harms	The authors argue, on ethical grounds, that categorically excluding pregnant and breastfeeding women from obtaining vaccines would violate autonomy and overlook the risks for such women who hold frontline	Zipursky JS, Greenberg RA, Maxwell C, et al. Pregnancy, breastfeeding and the SARS-CoV-2 vaccine: an ethics-based framework for shared

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		shared decision-making			are expected. Women, being over-represented in frontline healthcare and essential service positions, are at high risk of contracting SARS-CoV-2. Thus, restricting pregnant/breastfeeding women in such categories overlooks the risks they may incur to others and themselves. Hence, the authors recommend vaccinations be offered to pregnant and breastfeeding women, with options such as delaying or forgoing vaccinations. They also recommend using a framework to support shared decision-making, to allow individuals to weigh risks and benefits given the evidence, personal values, and provider input, and make a decision. They suggest including risk tolerance, personal risk of SARS-CoV-2 infection, the potential impact of COVID-19 on the fetus and newborn, family and caregiver responsibilities, and the efficacy and safety of the vaccine for pregnant/breastfeeding women and fetuses/neonates, as well as the level of trust the individual has in the healthcare system, to be included in shared decision-making discussions.	healthcare and essentials service jobs. They recommend using a framework to support shared-decision making in consultation with practitioner input, as well as women's personal values and evidence to make decisions best suited for themselves.	decision-making. CMAJ. 2021 Jan 27:cmaj.202833. doi: 10.1503/cmaj.202833. PMID: 33504561.
COVID-19, SARS-CoV-2, pregnancy, pre-exposure prophylaxis, hydroxychloroquine, vaccine	26-Jan-21	Pre-Exposure Prophylaxis for COVID-19 in Pregnant Women	International Journal of General Medicine	Commentary	This article discusses the possibility of pre-exposure prophylaxis (PrEP) using hydroxychloroquine (HCQ) in pregnant women to prevent gestational problems and severe illness related to COVID-19. Although HCQ has not been efficacious in SARS-CoV-2-infected hospitalized patients, HCQ PrEP prior to exposure or infection has shown favorable safety and efficacy results in studies in the UK, India, and China. Furthermore, HCQ is recognized as safe for use during pregnancy and breastfeeding, especially for women in malaria-endemic regions. Thus, the authors argue that consideration should be given to prescribing HCQ at a weekly dose of 400mg during pregnancy, similar to malaria prophylaxis. This dose has been used safely in pregnant women and should avoid severe disease and maternofetal complications associated with SARS-CoV-2 infection. In conclusion, the authors suggest that HCQ PrEP should be implemented during pregnancy because pregnant women may initially not be eligible to receive COVID-19 vaccines due to the unknown effects on mother and fetus.	The authors discuss the concept of pre-exposure prophylaxis with hydroxychloroquine (HCQ PrEP) using medications that are approved for use in pregnant women to prevent gestational problems and severe illness related to COVID-19. They cite that HCQ is recognized as safe for use during pregnancy and breastfeeding, especially for women in malaria-endemic regions. Therefore, they propose the use of HCQ PrEP to attenuate or prevent SARS-CoV-2 infection until pregnant women are eligible for the COVID-19 vaccine.	Fesler MC, Stricker RB. Pre-Exposure Prophylaxis for COVID-19 in Pregnant Women. Int J Gen Med. 2021;14:279-284. Published 2021 Jan 26. doi:10.2147/IJGM.S295627
pregnancy, breastfeeding, vaccination, policy	26-Jan-21	Inclusion of Pregnant and Lactating Persons in COVID-19 Vaccination Efforts	Annals of Internal Medicine	Editorial	Since as many as 300,000 healthcare workers in the US may be pregnant and included in the first wave of COVID-19 vaccinations, the authors argue that pregnant persons must be considered in frameworks to guide vaccination efforts. The Advisory Committee on Immunization Practices and the American College of Obstetricians and Gynecologists offer the following recommendations for pregnant and lactating people: pregnant persons should be offered the vaccine and encouraged to discuss vaccination plans with their provider; lactating persons should be encouraged to receive the vaccine; and persons planning to become pregnant should be encouraged to complete their vaccination series before conception. The authors provide evidence supporting these recommendations. Pregnant women with COVID-19 have higher risk than similar nonpregnant persons for poor COVID-19 outcomes and some studies have observed an association between COVID-19 and risk for preterm births and cesarean deliveries. Despite limited information about the vaccine's safety and effectiveness, the authors argue	This editorial summarizes US recommendations regarding the vaccination of pregnant and lactating person against COVID-19 and provide evidence supporting these recommendations. Information and resources are offered to guide providers counseling with pregnant and lactating patients about their COVID-19 vaccination plans.	Riley LE, Jamieson DJ. Inclusion of Pregnant and Lactating Persons in COVID-19 Vaccination Efforts [published online ahead of print, 2021 Jan 26]. Ann Intern Med. 2021;10.7326/M21-0173. doi:10.7326/M21-0173

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					that there is no biological reason to suspect that the body's response to an mRNA vaccine would be any different during pregnancy. Available data from rats administered the Moderna mRNA vaccine show no safety signals concerning female reproduction, fetal or embryonal development, or postnatal development. Given the mechanism of action of mRNA vaccines, there is no reason for concern that vaccination would introduce virus into breastmilk. The authors specifically cite a resource developed for patients and for providers to use when counseling pregnant and lactating patients.		
COVID-19; Caesarean section; breastfeeding; labor; pregnancy	25-Jan-21	Delivery and breastfeeding in pregnant patients with COVID-19 (Review)	Experimental and Therapeutic Medicine	Review	This review synthesizes outcomes of mothers with COVID-19 regarding birth method, labor management, C-section management, and breastfeeding indications. A search of articles published until April 30, 2020 yielded 50 records; 13 papers were included that reported the birth method and indications for C-section, neonatal investigations of SARS-CoV-2 transmission, and maternal and fetal outcomes. These studies summarized 167 births with 169 newborns; all mothers (age 20-44 years; mean age 30 years) were diagnosed with COVID-19 upon admission [testing details not reported]. Of the 167 births, 113 were C-section and 54 delivered vaginally. Among those that reported gestational age, mean gestational age upon delivery was 38 weeks, 103 women delivered at term, and 25 were preterm births before 34 weeks. 1 stillbirth and 1 neonatal death upon thrombocytopenia and altered liver function were reported. Of 169 newborns, 5 cases reported positive for SARS-CoV-2 (2.95%). 1 newborn was separated from the mother after birth and tested positive on day 3; 1 newborn had 2 positive tests on days 1 and 3 after direct contact with the mother without mask; 3 newborns tested positive for SARS-CoV-2, but samples of amniotic fluid, cord blood, and breast milk were negative. The majority of infants were separated from their mothers and monitored in the neonatal ward. In one study, 10 mothers with SARS-CoV-2 were permitted to breastfeed their newborns while wearing masks. Another study tested 6 breast milk samples of infected mothers, which all resulted negative for SARS-CoV-2. The authors caution that mother-infant separation can disrupt bonding and lactation, and can increase risk for postpartum depression. However, as breastfeeding directly may facilitate transmission via direct contact, separation may be indicated; in these cases, the authors recommend lactation still be initiated and the mother's milk offered due to its neonatal immune protections and a current lack of evidence to suggest that SARS-CoV-2 is present in breast milk. If the mother is asymptomatic or paucisymptomatic, the dyad should be cared for together to stimulate breastfeeding and facilitate their interaction.	This review synthesizes outcomes of mothers with COVID-19 regarding birth method, labor management, C-section management, and breastfeeding indications. Of 169 newborns born to mothers with SARS-CoV-2, 5 tested positive. The authors consider maternal-infant separation unwarranted and harmful in cases of asymptomatic or paucisymptomatic infection; if separation is indicated, lactation should be initiated and the infant fed with the mother's breast milk.	Dumitrascu MC, Cirstoiu MM, Nenciu AE, et al. Delivery and breastfeeding in pregnant patients with COVID-19 (Review). Exp Ther Med. 2021;21(3):278. doi:10.3892/etm.2021.9709
Pregnancy; SARS-CoV-2; treatment	25-Jan-21	COVID-19: can we treat the mother without harming her baby?	Journal of Developmental Origins of Health and Disease	Review	In this review, the authors outline the need to better understand the safety and efficacy of currently available therapeutics for COVID-19 in pregnant women and their infants. The authors discuss the unique immunological changes during pregnancy that respond differently to respiratory infections. Review of SARS-CoV-2 cases in pregnant women in the US and UK have shown that 7-15% of women presenting for term delivery tested positive for the virus in March/April 2020. The course of COVID-19 in pregnancy can include fever, cough, dyspnea as well as severe acute respiratory disease.	This review outlines the need to better understand the safety and efficacy of currently available therapeutics for COVID-19 in pregnant women and their infants. Pregnant women are especially vulnerable to the effects of COVID-19, yet there is still research	Wiese MD, Berry MJ, Hissaria P, et al. COVID-19: can we treat the mother without harming her baby? J Dev Orig Health Dis. 2021 Jan 25:1-11.

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					Symptomatic pregnant women, especially those with pneumonia, may be at increased risk of preterm delivery. Many studies have focused on vertical transmission and while this remains theoretically possible, smaller studies have not identified evidence of this. There is no evidence that vaginal delivery, breastfeeding or remaining with the mother postnatally increase the risk of neonatal infection, as long as appropriate contact precautions while the mother remains infectious. With regard to drug safety in pregnancy, some medications proposed for treatment of COVID-19 during pregnancy already have a characterized maternal and fetal safety profile; however, knowledge gaps remain around potential new drugs. When determining the selection criteria for therapeutics to treat COVID-19 symptoms in pregnant women, it is important to consider the effects on the fetus, thus highlighting that preclinical studies should be performed. Additionally, limited data exists for medications in clinical trials for COVID-19 in pregnant women and their neonates. The article also stresses the need for preclinical studies to be performed on species where the timing of fetal development aligns with that of humans (both in sheep and guinea pigs).	needed to provide clear guidance on therapeutics that are both effective for the mother and safe for the developing fetus.	
COVID-19; maternity care; research; local; priority setting	23-Jan-21	Establishing information needs and research priorities in response to the Covid-19 pandemic in the local maternity setting	Midwifery	Original Research	The authors sought to identify gaps in the evidence base and research priorities for maternity care in the United Kingdom during the COVID-19 pandemic. 58 respondents, including midwifery experts, maternal health researchers, clinical practitioners, and service users were asked to submit their feedback on priority topics from May-September 2020. Research topics were compiled based on answerability, novelty, effectiveness, sustainability, and equity. 15 steps were implemented for the midwifery research priority setting exercise (details for each step provided in a chart in the article). The 8 most highly ranked research topic areas included wellbeing of the workforce, women's mental health and emotional wellbeing, experiences of maternity care leaders, education and training, choice and decision making, breastfeeding, women with protected characteristics (disability, low socio-economic status, LGBTQ, minority), and the need for companionship. The authors noted that the methodology allowed for a systematic approach to identify research ideas while accounting for diverse opinions, and that the process identified under-prioritized aspects of maternity care.	This article describes a participatory process for identifying maternity care research priorities in the United Kingdom during the COVID-19 pandemic. 8 under-prioritized research areas were identified through the process.	Evans K, Janiszewski H, Evans C, et al. Establishing information needs and research priorities in response to the Covid-19 pandemic in the local maternity setting. Midwifery. 2021;95:102922. doi:https://doi.org/10.1016/j.midw.2021.102922.
post-partum, pregnancy, psychology, telehealth, mental health	23-Jan-21	Maternal psychological health in context with COVID-19 pandemic	Taiwanese Journal of Obstetrics and Gynecology	Correspondence	This article outlines steps governing bodies should take to support the mental health of pregnant and postpartum women during the COVID-19 pandemic. Lockdowns are essential, but may lead to negative psychological effects, which only escalate the psychological burden of pregnant women. Further, the lack of data surrounding the fetal effects of COVID-19 in mothers is likely to add to psychological stress. Especially in low-income and immigrant communities, lockdowns may result in increases in domestic violence and/or suicide rates. Given these potential outcomes, the author lists "essential guidance" for the provision of maternal psychological health care. This includes 9 key areas of focus, such as providing women-centered tele-health, screening pregnant women for pre-existing mental health conditions, acknowledging the increased risk of infection in under-served communities, normalizing feelings of loss/grief/anxiety in labor and birth, maintaining infant/mother bonding, promoting skin-to-skin care and	This article outlines steps governing bodies should take to support the mental health of pregnant and postpartum women during the COVID-19 pandemic. It encourages governing bodies to consider 9 "essential guidance" steps to alleviate the psychological burden on mothers.	Panda SR. Maternal psychological health in context with COVID-19 pandemic. Taiwan J Obstet Gynecol. 2021. doi:https://doi.org/10.1016/j.tjog.2020.12.002

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					breastfeeding, re-evaluating psychological symptoms postpartum, and providing virtual access to mental health resources, especially for pregnant and postpartum women working front-line jobs. The author asserts that government agencies should actively develop appropriate strategies to care for the well-being of this population.		
Amniotic fluid; Breastmilk; COVID-19; Cord blood; Placenta; Pregnancy; SARS-CoV-2; Vertical transmission	22-Jan-21	Gestation and COVID-19: clinical and microbiological observational study (Gesta-COVID19)	BioMed Central (BMC) Pregnancy and Childbirth	Protocol	The presence of SARS-CoV-2 has been demonstrated in biological samples during pregnancy (placenta, umbilical cord or amniotic fluid); however, maternal and fetal effects of the virus are not well known. The authors describe a protocol for a longitudinal, observational study in 8 tertiary care hospitals throughout Spain that are referral centers for pregnant women with COVID-19. The study will aim to include 150 pregnant women who tested positive for SARS-CoV-2 via RT-PCR test during pregnancy or 14 days pre-conception as well as their newborns. Pregnant women will be followed up until 4 weeks after delivery and neonates will be followed until 6 months after delivery. Primary outcomes include: rates of preterm delivery, pre-eclampsia, hospitalization during pregnancy, and ICU admission. Secondary outcomes include: maternal COVID-19 symptoms, maternal mortality, fetal mortality, fetal morbidity (miscarriage, stillbirth, fetal malformation, and intra-uterine growth restriction), behavior of the virus and serological response in biological fluids (urine, faeces, cord and peripheral blood, placenta, and breastmilk), rate of neonatal infection at 24, 48 hours, and 7 days after birth, neonatal morbidity (infection, pneumonia, ICU admission), and neonatal mortality. Analysis will also explore the association of adverse maternal, fetal and neonatal outcomes with each specific drug used to treat COVID-19.	This protocol describes a longitudinal, observational study in Spain that will include SARS-CoV-2 infected pregnant women and their newborns to evaluate the effects of COVID-19 on maternal, fetal, and neonatal morbidity and mortality.	Suy A, Garcia-Ruiz I, Carbonell M, et al. Gestation and COVID-19: clinical and microbiological observational study (Gesta-COVID19). BMC Pregnancy Childbirth. 2021;21(1):78. Published 2021 Jan 22. doi:10.1186/s12884-021-03572-4
lactation support; neonatal health; NICU; telemedicine	21-Jan-21	Telemedicine in neonatal medicine and resuscitation [Free Access to Abstract Only]	Current Opinion in Pediatrics	Review	The COVID-19 pandemic has rapidly accelerated the adoption of telemedicine across the world. This review describes the most recent advancements in neonatal telehealth, including its applications in the context of the COVID-19 pandemic. Remote rounding has allowed neonatologists to expand their reach into rural and underserved areas through videoconferencing with onsite neonatal nurse practitioners. Similarly, remote rounding has been used during the COVID-19 pandemic to reduce exposure and conserve PPE while continuing to provide family-centered care. Webcams have also been used to retain family support in the neonatal ICU (NICU) during the COVID-19 pandemic. A feasibility study was conducted of 3 NICU patients wherein only essential personnel could enter the room and a digital Bluetooth stethoscope was used for assessment. In this case, the multidisciplinary team was able to meet outside of the room, visually assess the patient remotely, and discuss care plans. Lactation/breastfeeding support services were provided to mothers virtually. The authors note that tele-lactation services can improve access to lactation support, citing evidence that telemedicine-based lactation services implemented in rural areas had high utilization rates and high rates of satisfaction. The authors recommend an initial test tele-lactation call prior to hospital discharge to help ease mothers' apprehension about talking to a stranger over video.	This review describes the most recent advancements in neonatal telehealth, including its applications in the context of the COVID-19 pandemic. The authors describe strategies to facilitate family-centered care, multidisciplinary collaboration, and lactation support while minimizing risk and conserving PPE.	Lapcharoensap W, Lund K, Huynh T. Telemedicine in neonatal medicine and resuscitation [published online, 2021 Jan 21]. Curr Opin Pediatr. 2021. doi:10.1097/MOP.0000000000000995

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breastfeeding; maternal infection; birth outcomes; postpartum care; labor and delivery; symptoms	21-Jan-21	Neonates Born to Mothers With COVID-19: Data From the Spanish Society of Neonatology Registry [Free Access to Abstract Only]	Pediatrics	Original Research	This study aimed to describe neonatal and maternal characteristics of a cohort of newborns born to mothers with SARS-CoV-2 infection in Spain. Data was collected from the nationwide registry of the Spanish Society of Neonatology. 503 infants born to 497 mothers from March 8-May 26, 2020 were included in the analysis. SARS-CoV-2 infection was confirmed by RT-PCR tests. The mothers' median age was 33 years (IQR 29-37), and 28% (N=139) had a previous co-morbidity such as obesity, hypothyroidism, diabetes, or heart disease. 49.3% were asymptomatic and 5% were experiencing severe symptoms at the time of delivery. 33% delivered via C-section, 81.5% of whom had moderate or severe COVID-19. 15.7% of infants were born premature, double the typical rate of 7.54% [p-value not provided]. 51.8% of infants experienced skin-to-skin contact postpartum, with the mothers wearing face masks. 76.5% of neonates received maternal milk. 19.5% of infants were admitted to the neonatal ICU (NICU) because of clinical symptoms [symptoms not specified]. After 2 rounds of PCR tests, 6 infants tested positive 48 hours postpartum: 1 delivered by C-section with subsequent maternal separation, 3 were admitted to the NICU from birth, and 2 roomed in with the mother. All were asymptomatic except 1, who was born prematurely with transient respiratory distress. The authors conclude that there is no need for separation of mothers from neonates. They recommend allowing delayed cord clamping and skin-to-skin contact along with maintenance of breastfeeding in a high percentage of newborns from mothers with COVID-19.	This study, conducted in Spain from March-May 2020, examined maternal and neonatal characteristics and birth outcomes in a cohort of infants born to SARS-CoV-2-positive mothers. The authors reported higher rates of preterm deliveries, but also high rates of skin-to-skin contact and breastfeeding, with minimal rates of SARS-CoV-2 transmission.	Sánchez-Luna, M., Fernández Colomer, B., de Alba Romero, C., et al. (2021). Neonates Born to Mothers With COVID-19: Data From the Spanish Society of Neonatology Registry. Pediatrics, e2020015065. doi:0.1542/peds.2020-015065
COVID-19; inflammation; peritoneum; vertical transmission	20-Jan-21	A case study of the first pregnant woman with COVID-19 in Bukavu, eastern Democratic Republic of the Congo	Maternal Health, Neonatology, and Perinatology	Case report	The authors report on a 25-year-old woman (gravida 3, para 2) admitted to a hospital in the Democratic Republic of the Congo for preterm labor (34 weeks) due to COVID-19. The patient began complaining of fever and her obstetrician prescribed antibiotics, antimalarials, and anti-spasmodic medications; 2 weeks later, the fever persisted. She tested positive for SARS-CoV-2 by RT-PCR. She was then admitted to the COVID-19 treatment facility, where she continued to be treated with antipyretics, anti-spasmodics (trimethylphloroglucinol), and antibiotics. 2 days later, she experienced uterine contractions of low intensity and was transferred to the hospital for preterm labor after a negative rapid SARS-CoV-2 antigen test. A newborn female (1760g) was delivered via c-section with APGAR scores of 9 and 10, 1 and 5 minutes after birth. The newborn was transferred to the neonatal ward and on day 3 was jaundice with respiratory distress and ulcerative enterocolitis. Hemocultures were negative, but a SARS-CoV-2 RT-PCR from an oropharyngeal swab of the infant was positive, as were gastric cultures for Citrobacter sp. and Enterobacter cloacae. The infant was fed by a nasogastric tube with artificial milk formulas adapted to newborns. The newborn died on day 5 due to severe neonatal sepsis after a new course of antibiotics. During the c-section, the mother's peritoneal cavity and uterus were inflamed, and fetal appendages had eruptive, vesicular lesions with bleeding on contact. The placenta was 500g and had a clot on the maternal side on <20% of the surface. An anatomopathological exam revealed thrombotic vasculopathy in the placenta and umbilical cord vessels. The mother had elevated c-reactive protein levels of 106.53mg/l on admission	The authors report on a 25-year-old admitted to a hospital in the Democratic Republic of the Congo for preterm labor (34 weeks) due to COVID-19. This case may represent a possible intra-uterine transmission of SARS-CoV-2 infection.	Birindwa EK, Mulumeoderhwa GM, Nyakio O, et al. A case study of the first pregnant woman with COVID-19 in Bukavu, eastern Democratic Republic of the Congo. Matern Health Neonatol Perinatol. 2021;7(1):6. Published 2021 Jan 20. doi:10.1186/s40748-021-00127-5

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					and 186 mg/l on post-operative day 1. The authors report that this case may represent intra-uterine (vertical) transmission of SARS-CoV-2. More examinations of the peritoneum, viscera, and fetal appendages are needed in affected pregnant women.		
COVID-19; SARS-CoV-2; antiviral; breastfeeding; pregnancy	19-Jan-21	COVID-19 Treatment: Drug Safety Prior to Conception and During Pregnancy and Breastfeeding	Geburtshilfe und Frauenheilkunde	Review	This review summarizes literature on the safety of therapies used to treat COVID-19 during pregnancy and lactation, including information on each treatment's mechanism of action against SARS-CoV-2 infection and COVID-19 complications. Chloroquine/hydroxychloroquine (CQ/HCQ), Lopinavir-ritonavir, Oseltamivir, Azithromycin, corticosteroids, Colchicine, Niclosamide, Heparin, Vitamin C, Vitamin D, Zinc, and Quercetin are considered safe for use during pregnancy. However, the authors make the following notes: some medical societies consider CQ/HCQ to have some risk during pregnancy, Oseltamivir's safety recommendation is based only on observational studies, and some authors warn of the risk of cleft lip with or without cleft palate with corticosteroids. Remdesivir has shown no adverse effect on embryo-fetal development in animals but remains under investigation in humans. The authors recommend the following drugs be discontinued during pregnancy: Sirolimus, Tocilizumab (in light of conflicting guidance), Thiazolidinedione, and Ivermectin. Anakinra should be used in pregnant patients only if there are no other options, but should be avoided in lactating patients. CQ/HCQ, Lopinavir-ritonavir, Oseltamivir, Azithromycin, corticosteroids, Colchicine, Niclosamide, Heparin, Vitamin C, Vitamin D, Zinc, and Quercetin are considered compatible with breastfeeding. Remdesivir is currently under investigation for use in lactating patients. The authors recommend either discontinuation of treatment or nursing for the following drugs: Sirolimus, Tocilizumab, Thiazolidinedione, and Ivermectin. No data exist for the safety of Umifenovir, Favipiravir, or hyperimmuned plasma in pregnant or lactating patients.	This review summarizes literature on the safety of a list of drugs used to treat COVID-19 during pregnancy and lactation, including information on each treatment's mechanism of action against SARS-CoV-2 infection and COVID-19 complications.	Cavalcante MB, Cavalcante CTMB, Braga ACS, et al. COVID-19 Treatment: Drug Safety Prior to Conception and During Pregnancy and Breastfeeding. Geburtshilfe Frauenheilkd. 2021;81(1):46-60. doi:10.1055/a-1247-5271
COVID-19; Family cluster; Infant; Serum antibodies; fecal-oral transmission; breast milk	18-Jan-21	Epidemiological investigation of a COVID-19 family cluster outbreak transmitted by a 3-month-old infant	Health Information Science and Systems	Original Research	The authors reported clinical and epidemiological characteristics surrounding a family outbreak cluster from January -June 2020, initiated by a 3-month-old, in Hainan province in Southern China. The attack rate of this family cluster outbreak was 80% (4/5). Patient A (infant) became the first confirmed COVID-19 case in this family, after unprotected swimming in a pool in Wuhan on January 20, 2020. Throat swabs, sputum, feces, urine, and breast milk from the subjects were tested for SARS-CoV-2 by real-time fluorescence RT-PCR. The infant tested positive on a throat swab January 27. The mother, patient D, was asymptomatic but tested positive for SARS-CoV-2 via throat swab. Patient A had negative throat swab tests on February 9 and 11, but her fecal specimen remained positive for an additional 37 days. Patient A's grandmother (patient C) tested positive for SARS-CoV-2 on February 14, introducing the possibility of fecal–oral transmission after a patient has recovered from respiratory infection. Breast milk of Patient D was negative for SARS-CoV-2 nucleic acid on February 6. On June 13, 4/ 5 family members had positive serum IgG and negative IgM; the fifth family member was negative for both. The authors believe that healthcare providers and patients should be informed of the potential risk of SARS-CoV-2 transmission by fecal microbiota; further investigation is needed to better	The authors of this clinical and epidemiological report surrounding a family outbreak cluster from January -June 2020, initiated by a 3-month-old, in Hainan province in Southern China state that strong transmissibility within family settings and presence of viral RNA in stool raises concern for possible fecal-oral transmission. Breast milk in this family cluster was negative for SARS-CoV-2 nucleic acid, but the authors emphasize that neonatal transmission through breast milk cannot be ruled out.	Lin GT, Zhang YH, Xiao MF, et al. Epidemiological investigation of a COVID-19 family cluster outbreak transmitted by a 3-month-old infant. Health Inf Sci Syst. 2021 Jan 18;9(1):6. doi: 10.1007/s13755-020-00136-2.

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					understand SARS-CoV-2 fecal–oral transmission. Breast milk in this case was negative for SARS-CoV-2, but the authors emphasize neonatal transmission through breast milk cannot be ruled out, and suggest breast milk SARS-CoV-2 testing for newborns with suspected or confirmed SARS-CoV-2 infection.		
COVID-19; maternal health; newborn health; maternal-child transmission; mental health; gender equity	18-Jan-21	The impact of the COVID-19 pandemic on maternal and perinatal health: A scoping review	Reproductive Health	Scoping Review	In this article, researchers conducted a scoping review of the evidence of direct and indirect impacts of the COVID-19 pandemic on maternal health, specifically of pregnant women and mothers' physical, mental, economic, and social well-being. Global research literature published in English between January and September 2020 was included, resulting in 95 articles that comprised the review. Though pregnant women and mothers were not found to be at higher risk for SARS-CoV-2 infection than others, pregnant individuals were found to be at a heightened risk of more severe COVID-19 symptoms than people who are not pregnant. Intra-uterine, vertical, and breastmilk transmission were found to be unlikely. Labor, delivery, and breastfeeding guidelines for COVID-19 patients varied by world region. Severe increases in domestic violence and in maternal mental health issues, such as clinically significant anxiety and depression, were reported. Prenatal care visits decreased during the pandemic, healthcare infrastructure was strained, and potentially harmful policies were implemented with little evidence. Women were more likely to be unemployed and lose their income due to the pandemic than men, and working mothers struggled with increased childcare demands. The similarities of negative socio-economic consequences for women across several high- and low-income countries evidenced by this review warrant a thorough analysis of policy effects on this population, and maternal mental health must be prioritized.	This review characterizes the direct and indirect impacts of the COVID-19 pandemic on the physical, mental, economic, and social health of pregnant women and mothers from 95 articles published worldwide between January and September 2020. Pregnant women and mothers were not more susceptible to SARS-CoV-2 infection, but were more likely to experience severe symptoms. Mental health issues have risen since the onset of the pandemic, and women are more likely to become socio-economically disadvantaged and lose jobs than men.	Kotlar B, Gerson E, Petrillo S, et al. The impact of the COVID-19 pandemic on maternal and perinatal health: A scoping review. Reprod Health. 2021;18(1):10. doi:10.1186/s12978-021-01070-6
kangaroo mother care; skin-to-skin contact; breastfeeding; infant feeding; LMICs; neonatal care	16-Jan-21	The multi-agency partnership roadmap for newborns in humanitarian settings: Timely and crucial during the COVID-19 pandemic	Journal of Global Health	Viewpoint	This article briefly discusses the importance of breastfeeding and skin-to-skin contact as life-saving, cost-effective interventions that are especially important during the COVID-19 pandemic, particularly in humanitarian settings and in low- and middle-income countries (LMICs) that have experienced significant disruption to their health care systems. A recent UK study confirmed that severe COVID-19 in newborns is very rare; they found that 0.06% required hospital treatment for COVID-19 and a small proportion of those with SARS-CoV-2 infection (17 of 66) were suspected to have caught the virus from their mother in the first 7 days of life. Based on this evidence, the authors do not support the separation of newborns from mothers who test positive for SARS-CoV-2. As the COVID-19 pandemic has disrupted access to routine health services, especially in LMICs, the authors call for an emphasis on preventative interventions. Although the promotion and support of early and exclusive breastfeeding and skin-to-skin care are often overlooked in humanitarian crises, the authors argue they need even more emphasis during the COVID-19 pandemic for their cost-effectiveness and proven benefit to neonatal health. They also recommend humanitarian staff receive training on neonatal resuscitation to address asphyxia and implement kangaroo mother care, feeding support, and monitored oxygen for premature infants. The resilience of health systems should be strengthened by integrating priority maternal and newborn health	This article discusses the importance of breastfeeding and skin-to-skin contact as life-saving, cost-effective interventions that are especially important during the COVID-19 pandemic, particularly given the significant disruption to routine health services in low- and middle-income countries.	Bellizzi S, Farina G, Fiamma M, Pichierri G, Salaris P, Napodano CMP. The multi-agency partnership roadmap for newborns in humanitarian settings: Timely and crucial during the COVID-19 pandemic. J Glob Health. 2021;11:03015. Published 2021 Jan 16. doi:10.7189/jogh.11.03015

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					interventions into preparedness and response plans, using global guidance and evidence to inform policies.		
antibody-dependent enhancement; clinical trials; COVID-19; lactation; neonatal immunity; vaccine development	15-Jan-21	Equity in coronavirus disease 2019 vaccine development and deployment	American Journal of Obstetrics and Gynecology	Special report	The authors report on the confusion, inequities, and discrepancies of the current guidance from the UK and the US regarding COVID-19 vaccinations for pregnant and lactating women. The development of a COVID-19 vaccine within 1 year was a historical biomedical achievement; however, it has widened gender-based inequalities by excluding pregnant and lactating women from vaccine studies and added confusion by offering differing vaccination suggestions according to country. Initially, the UK advised against vaccination during pregnancy and encouraged mothers to wait until breastfeeding ended to receive the vaccine. The UK now suggests that pregnant women who are extremely vulnerable or are front-line workers should discuss the option with their providers and that breastfeeding women should receive the vaccine. In the US, the Society for Maternal-Fetal Medicine recommends the vaccine for pregnant and lactating women. In 1994, the US Institute of Medicine reported that a presumption of inclusion of pregnant and lactating women in vaccine trials should be the norm, and exclusion should only be for evident reasons. Despite this, the COVID-19 vaccine trials adopted a traditional approach. The Johnson & Johnson COVID-19 vaccine is adenovirus-based; other adenovirus-based vaccines such as Ebola are used in pregnancy and are considered safe. Other COVID-19 vaccines consist of encapsulated mRNA that stimulates the production of anti-SARS-CoV-2 antibodies. This type of vaccine is not a live virus. The American College of Obstetricians and Gynecologists concluded that there is unlikely to be any safety issues different from those in non-pregnant women. The authors stress that the exclusion of pregnant and lactating women in vaccinations is paternalistic and leads to increased vulnerability, which needs to be addressed globally as one voice to ensure best practices.	The development of a COVID-19 vaccine within 1 year was a historical biomedical achievement; however, it has widened gender-based inequalities by excluding pregnant and lactating women from vaccine studies and added confusion by offering differing vaccination suggestions according to country.	Modi N, Ayres-de-Campos D, Bancalari E, et al. Equity in coronavirus disease 2019 vaccine development and deployment. *Obstet Gynecol.* 2021. https://www.sciencedirect.com/science/article/pii/S0002937821000296. doi: https://doi.org/10.1016/j.ajog.2021.01.006.
COVID-19; Mental health; Pandemic; Perinatal; Women	15-Jan-21	Effects of the COVID-19 pandemic on perinatal mental health in Spain: Positive and negative outcomes	Women and Birth	Original Research	The aim of this study was to describe the effects of the COVID-19 pandemic on maternal perinatal mental health in Spain. The authors conducted a cross-sectional survey study of 724 women (mean age 33.36 years) who were either pregnant (antenatal period, n=450) or who had given birth in the previous 6 months (postnatal period, n=274) at the time of the study, during the initial time of the COVID-19 alarm state in Spain. Recruitment was conducted between April 7-May 8, 2020. The Edinburgh Postnatal Depression Scale, the Positive and Negative Affect Schedule, and the Satisfaction With Life Scale were administered. The results showed that 58.7% and 51.2% of all participants reported depressive and anxiety symptoms, respectively. A regression analysis for life satisfaction showed that, besides the perception about their own health ($p<0.001$), being married/partnered ($p=0.019$) or being a health practitioner ($p=0.004$) were also significant predictors of higher life satisfaction during pregnancy. Perceptions about infant health ($p=0.017$) and sleep ($p=0.009$), perceptions about their own health ($p=0.025$), and being married/partnered ($p=0.046$) were significant predictors of higher life satisfaction during the postpartum stage. Statistically significant differences were found in depression symptoms ($p=0.012$) and negative emotions ($p=0.024$), depending on the	The authors conducted a cross-sectional survey study of 724 women who were either pregnant or who had given birth in the previous 6 months at the time of the study, during the initial time of the COVID-19 alarm state in Spain. The results showed that 58.7% and 51.2% of all women reported depressive and anxiety symptoms, respectively. The predictors of mental health during the COVID-19 pandemic were different, depending on the perinatal stage of the woman. Women who fed their babies with formula reported higher levels of depressive symptoms and negative emotions than women who breastfed	Chaves C, Marchena C, Palacios B, et al. Effects of the COVID-19 pandemic on perinatal mental health in Spain: Positive and negative outcomes [published online 2021 Jan 15]. Women Birth. 2021. doi:10.1016/j.wombi.2021.01.007

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					type of feeding: breastfeeding, formula, or mixed. Women who fed their babies with formula reported higher levels of depressive symptoms and negative emotions than women who breastfed (p=0.043; p=0.042). The results indicated that the predictors of mental health during the COVID-19 pandemic were different depending on the perinatal stage of the woman. The authors argued it is crucial to integrate measures of both well-being and distress in protocols for evaluating perinatal mental health.		
newborn care, anxiety, self-efficacy, coaching, breastfeeding, infant feeding	15-Jan-21	Implementing Essential Coaching for Every Mother during COVID-19: A Pilot Pre-Post Intervention Study	medRxiv	Preprint (not peer-reviewed)	This study conducted July 15-September 19, 2020 in Canada evaluated the preliminary impact of Essential Coaching for Every Mother on self-efficacy, social support, postpartum anxiety and postpartum depression during the COVID-19 pandemic. This mobile health program sends daily text messages providing support and education to mothers during the 6-week postpartum period; it was modified to also include information related to COVID-19 and infant feeding. 88 first-time mothers (mean age 30.81 years; range not indicated) completed a survey at enrollment (after birth) and again 6 weeks postpartum to assess changes between baseline to follow-up. Self-efficacy scores (according to the Karitane Parenting Confidence Scale) increased between baseline and follow-up (p=0.000) indicating increased parenting confidence, while State-Trait Anxiety Inventory scores declined (p=0.004) indicating reduced anxiety symptoms. 78 mothers (88.6%) opted in to receive text messages related to breastfeeding and the remainder opted for formula feeding messages, with 2 participants changing from breastfeeding to formula messages while in the program. 84.5% felt the messages contained all the information they needed to care for a newborn and 98.8% indicated they would recommend this program to other new mothers. These results indicate that this program may be useful during the COVID-19 pandemic to address current gaps in postpartum education and support.	This prospective pre-post study in Canada evaluated the preliminary impact of Essential Coaching for Every Mother on self-efficacy, social support, postpartum anxiety and postpartum depression among participating mothers during the COVID-19 pandemic.	Dol J, Aston M, Grant A, McMillan D, Murphy GT, Campbell-Yeo M. Implementing essential coaching for every mother during COVID-19: A pilot pre-post intervention study. medRxiv. 2021:2021.01.13.21249598. doi: 10.1101/2021.01.13.21249598.
COVID-19, considerations, children, families, pandemic	14-Jan-21	COVID-19: Considerations for Children and Families During the Pandemic	Frontiers in Pediatrics	Review	This review summarized current literature on the unique physical and psychological health problems posed to children and families during the COVID-19 pandemic. Based on children's decreased risk of infection but susceptibility to MIS-C, it is important for parents to show children a positive attitude in preventing the spread of COVID-19. This paper presents the following considerations: parents should avoid large public gatherings, children and other family members should be tested for SARS-CoV-2 if symptomatic following possible exposures, children with COVID-19 that are suspected of MIS-C should be hospitalized in a timely manner, children should be vaccinated for other pediatric communicable diseases, parents should aim to prevent psychosocial distress prompted by disruption to daily life, parents should be aware of and rectify false information exposure from social media, and families should be aware of exacerbation of abuse and violence against children during the pandemic. In addition, the review notes that, although there is some controversy over COVID-19-positive mothers breastfeeding, there is no reliable evidence of transmission via this route, and so only basic mask-wearing and hand hygiene should be followed.	This review discusses physical and psychological health problems posed by the COVID-19 pandemic, against which parents and families should take precautions. The authors note that SARS-CoV-2-infected mothers can safely breastfeed if proper mask-wearing and hand hygiene is followed.	Tang B, Alam D, Rakib MU et al. COVID-19: Considerations for Children and Families During the Pandemic. Frontiers in Pediatrics. 2021; 8: 600721. doi: 10.3389/fped.2020.600721
MIS-C, persistent pulmonary	12-Jan-21	COVID-19-related Potential Multisystem	The Pediatric Infectious	Brief Reports	This is a case of a 4-hour-old male infant from Northeastern India with persistent pulmonary hypertension of the newborn (PPHN) and MIS-C in the United Kingdom. The infant was born at 38 3/7 weeks' gestation from a 41-	This is a case of a 4-hour-old male infant from Northeastern India with persistent pulmonary	Khaund Borkotoky R, Banerjee Barua P, Paul SP, et al. COVID-19-

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hypertension of the newborn, SARS-CoV-2, infant		Inflammatory Syndrome in Childhood in a Neonate Presenting as Persistent Pulmonary Hypertension of the Newborn	Disease Journal		year-old mother through an emergency C-section due to prolonged labor and fetal distress. He weighed 4.84 kg, and had respiratory distress and cyanosis. Chest radiograph showed bilateral haze, and echocardiography indicated PPHN. He was given sildenafil, dopamine, furosemide, and tazobactam/piperacillin. Breast milk was given through an oro-gastric tube. His condition improved for a few hours on day 7 but worsened within a few hours, leading to re-intubation. He developed necrotizing enterocolitis and vasculitis on day 14. His condition improved in 72 hours, and breast milk was re-introduced. Both mother and infant tested positive for SARS-CoV-2 IgG but negative for SARS-CoV-2 IgM and antigen. 2 months later, the infant's antibody titers had declined, suggesting transplacental transfer, according to the authors. Transplacental transfer potentially induced the infant's hyper-inflammatory response with cytokine storm, thus affecting multiple systems including the lungs, skin, and gut. A guideline on neonatal MIS-C criteria and management is urgently needed.	hypertension of the newborn (PPHN) and MIS-C in the United Kingdom. The authors report that this case demonstrates a hyper-inflammatory response with cytokine storm, that originated from transplacental SARS-CoV-2 antibody transfer.	related Potential Multisystem Inflammatory Syndrome in Childhood in a Neonate Presenting as Persistent Pulmonary Hypertension of the Newborn. Pediatr Infect Dis J. 2021. doi:10.1097/INF.0000000000003054
Breastfeeding; COVID-19; support	12-Jan-21	COVID-19 Precautions Hamper Breastfeeding Support	Journal of the American Medical Association (JAMA)	News commentary	The author reports the disruption that COVID-19 precautions had on breastfeeding support in the United States during the summer of 2020. The author states that 1 in 5 hospitals reduced in-person lactation support, and 75% of hospitals discharged women in less than 48 hours to prevent potential infection. There was mixed guidance early on in the pandemic. Both the WHO and American Academy of Family Physicians advised mothers who tested positive for SARS-CoV-2 to wear masks and continue breastfeeding and practicing skin to skin contact. The American College of Obstetricians and Gynecologists recommended that mothers and doctors practice shared decision-making. The CDC and American Academy of Pediatrics initially recommended separating SARS-CoV-2 positive mothers from their infants, but later revised their guidance to the same recommendations as the WHO. The author reports that in a CDC survey of 1,344 hospitals, 14% of hospitals discouraged and 6.5% prohibited skin-to-skin contact when a mother was suspected or confirmed SARS-CoV-2 positive, and 13% did not support direct breastfeeding. These practices run contrary to evidence-based lactation support practices.	In this news report, the author explains the conflicting guidance and the resulting decline in breastfeeding support in hospitals in the United States during the COVID-19 pandemic in the summer of 2020. The author reports declines in in-person lactation support and findings that both skin-to-skin contact and direct breastfeeding were discouraged in hospitals.	Kuehn B. M. (2021). COVID-19 Precautions Hamper Breastfeeding Support. JAMA, 325(2), 122. doi:10.1001/jama.2020.25241
SARS-CoV-2, non-communicable disease, children,	12-Jan-21	Could children born to mothers with COVID-19 be more prone to non-communicable diseases?	Acta Paediatrica	Short Commentary	The authors express concern about the effect of SARS-CoV-2 infection in pregnant women on their offspring, particularly in the context of non-communicable diseases (i.e., obesity, diabetes, hypertension, cardiovascular disease, etc.). Their concern stems from the increase in sedentary living and unhealthy dietary changes due to the prolonged COVID-19 lockdown. Furthermore, COVID-19 has been related to an increase in preterm births, fetal growth restriction, and increased cesarean deliveries, which have been correlated with increased risk for non-communicable diseases. Stillbirth rates have increased during the COVID-19 pandemic, possibly due to lack of care during the lockdowns. Also, postnatal symptoms such as feeding issues have increased. Together, these findings suggest that SARS-CoV-2 may directly impact the fetus and neonate. In all, the authors believe that long-term follow-up studies are needed to determine the outcomes of children of SARS-CoV-2 infected mothers.	This commentary explores the possibility that children born to mothers infected with SARS-CoV-2 may have increased risk of non-communicable diseases.	Malamitsi-Puchner A, Briana DD, Giudice L, Di Renzo GC. Could children born to mothers with COVID-19 be more prone to non-communicable diseases? [published online, 2021 Jan 12]. Acta Paediatr. 2021;10.1111/apa.15757. doi:10.1111/apa.15757

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transplacental transmission; vertical transmission; breast milk; placenta; SARS-CoV-2; immunohistochemistry	8-Jan-21	Evaluation of vertical transmission of SARS-CoV-2 in utero: nine pregnant women and their newborns	medRxiv	Preprint (not peer-reviewed)	To determine whether SARS-CoV-2 can infect the fetus through the placental barrier, this study investigated the presence of SARS-CoV-2 structural proteins (spike protein and nucleoprotein) and targeted receptor protein (ACE2, CD147 and GRP78) expression in the placental tissue of 7 women diagnosed with COVID-19 in China. Amniotic fluid, neonatal throat and anal swabs, and breastmilk samples were collected immediately after delivery and tested for SARS-CoV-2 by RT-PCR. 2 samples of SARS-CoV-2-negative placental tissues were obtained as negative controls. All infants were separated from their mothers immediately after delivery and admitted to the neonatal ICU, and RT-PCR tests of newborn swabs were performed at 0h, 24h, and 48h after birth. Results showed that CD147 was expressed on the basal side of the chorionic trophoblast cell membrane and ACE2 was expressed on the maternal side, while GRP78 was strongly expressed in the cell membrane and cytoplasm. Immunohistochemistry of the structural protein of SARS-CoV-2 showed that S protein and nucleoprotein were positive in the cytoplasm of syncytial trophoblasts of the COVID-19 exposed placentas. However, RT-PCR results of amniotic fluid, neonatal throat and anal swabs, and breastmilk samples were all negative. The authors conclude that despite the detection of viral structural proteins in the placenta, transplacental transmission of SARS-CoV-2 is prevented by the presence of the placental barrier.	This study in China tested for the presence of SARS-CoV-2 structural proteins and targeted receptor protein expression in the placentas of 7 women with COVID-19. RT-PCR of amniotic fluid, neonatal throat and anal swabs, and breastmilk samples were all negative for SARS-CoV-2. Despite the detection of viral structural proteins in the placenta, the authors conclude that transplacental transmission of SARS-CoV-2 is prevented by the placental barrier.	Dong L, Pei S, Ren Q, et al. Evaluation of vertical transmission of SARS-CoV-2 in utero: Nine pregnant women and their newborns. medRxiv. 2021. doi: 10.1101/2020.12.28.20248874
breastfeeding, infant feeding, NICU, SARS-CoV-2, microbiome, neonatal health	8-Jan-21	Center-Based Experiences Implementing Strategies to Reduce Risk of Horizontal Transmission of SARS-Cov-2: Potential for Compromise of Neonatal Microbiome Assemblage	medRxiv	Preprint (not peer-reviewed)	Since perinatal transmission of SARS-CoV-2 is poorly understood, many neonatal ICU (NICU) policies minimize mother-infant contact to prevent transmission. The authors present approaches of their unit in Chicago (USA) and discuss possible implications for neonatal microbiome acquisition. They summarize clinical characteristics and outcomes of 21 pregnant women (mean age 26 years; range 17-42 years) with COVID-19 who delivered 21 infants at their facility between March-August 2020. SARS-CoV-2 was confirmed either by PCR (n=2) or rapid point of care testing (POCT) (n=19). Prematurity complicated 2 deliveries. Delayed cord clamping (40% of cases) and skin-to-skin contact (allowed in 10% of cases) were generally avoided and all infants were admitted to the NICU. POCT was negative for SARS-CoV-2 at 24 and 48 hours for all infants. Average length of stay was 9 (range 5-52) days, with an average of 7 days when excluding the 2 premature infants. Use of maternal breast milk was not allowed in the NICU. All infants received formula in the NICU except for 1 premature infant who qualified for donor breastmilk. Lactation counselors met with mothers to instruct on safe nursing and pumping. In 30% of newborns, mothers provided expressed milk at discharge or at the time of the first outpatient appointment; no infants received breast milk exclusively. The authors note that extended hospital stays, no skin-to-skin contact, limited maternal milk use, and discharge to caregivers outside primary residences can potentially affect the neonatal microbiome. Therefore, further research is warranted to evaluate the impact of these and similar policies on neonatal health.	The authors summarize clinical characteristics and outcomes of pregnant women with COVID-19 who delivered at their facility in Chicago, USA making note of policies such as limited skin-to-skin contact and restricted use of maternal milk that can impact the neonatal microbiome.	Romano-Keeler J, Fiszbein D, Zhang J, et al. Center-based experiences implementing strategies to reduce risk of horizontal transmission of SARS-cov-2: Potential for compromise of neonatal microbiome assemblage. medRxiv. 2021:2021.01.07.21249418. doi: 10.1101/2021.01.07.21249418.
COVID-19; breastfeeding; vaccine	8-Jan-21	COVID-19: Breastfeeding women can have	The British Medical Journal (BMJ)	Article	The author states that the UK's Medicines and Healthcare Products Regulatory Agency (MHRA) has revised its guidance and will allow pregnant and breastfeeding women to receive the COVID-19 vaccine, as of 30	The author states that the UK's Medicines and Healthcare Products Regulatory Agency has	Rimmer A. Covid-19: Breastfeeding women can have vaccine after

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		vaccine after guidance turnaround			December 2020. The MHRA advises that women should discuss the benefits and risks of the vaccine with their healthcare professionals. Although data does not indicate any safety concern or harm to pregnancy, there is insufficient evidence to recommend routine use of the COVID-19 vaccine during pregnancy. The Royal College of Obstetrics and Gynaecologists (RCOG) states that pregnant women who are frontline health or social care workers should discuss options for vaccination with their providers. The RCOG has called on the UK government to fund research to study the vaccine's suitability for pregnant and breastfeeding women.	revised its guidance as of 30 December 2020 and will allow pregnant and breastfeeding women to receive the COVID-19 vaccine.	guidance turnaround. BMJ. 2021;372:n64. Published 2021 Jan 8. doi:10.1136/bmj.n64
Severe acute respiratory syndrome coronavirus-2; COVID-19; children	7-Jan-21	Understanding SARS-CoV-2 in Children: A Review	European Journal of Molecular and Clinical Medicine	Review	In this review of SARS-CoV-2 in children [no ages defined] from India, the author presents modes of transmission for SARS-CoV-2, clinical features of the pediatric COVID-19, common laboratory findings in pediatric patients, the common clinical course for children, management of COVID-19 in children, recommendations for breastfeeding during the COVID-19 pandemic, and concerns for missed vaccinations due to shutdowns. The author reports that the incidence of SARS-CoV-2 is less in children than adults, with reports varying by country (US 2% of cases were children; China 2.2%; Spain 0.8%). Most cases in children had a positive household member. The incubation period is 1-14 days for pediatric patients, according to the WHO. The possibility of vertical transmission from mother to infant during childbirth remains unclear. SARS-CoV-2 should be suspected in all children presenting with fever, cough, or shortness of breath. Laboratory findings are slightly different in children than adults, with no consistent leukocyte abnormalities and more frequent elevation of procalcitonin versus C-reactive protein levels. Children most often have asymptomatic or mild cases of SARS-CoV-2. Studies in China reported 4% of children were asymptomatic, 51% had mild cases, 5% had severe cases, and 0.6% became critical with acute respiratory distress syndrome, respiratory failure, or multi-organ dysfunction. SARS-CoV-2 positive mothers are encouraged to continue breastfeeding while taking precautions to prevent the infection's spread to the child. Neonates born to SARS-CoV-2 positive mothers should be tested at 24- and 48-hours post-birth; however, if the nasopharynx is contaminated with maternal fluids, false-positive tests may result. There is concern for children missing routine vaccinations due to shutdowns; these doses must be made up through coordination between families and healthcare organizations. Children often interact with more people and can spread SARS-CoV-2 in the community.	In this review of SARS-CoV-2 in children from India, the author presents modes of transmission for SARS-CoV-2, clinical features of pediatric COVID-19, common laboratory findings in pediatric patients, the common clinical course for children, management of COVID-19 in children, recommendations for breastfeeding during the COVID-19 pandemic, and concerns for missed vaccinations due to shutdowns.	Dhanya VJ. Understanding SARS-CoV-2 in Children: A Review. European Journal of Molecular & Clinical Medicine. 2020;7(11):1102-1107. https://ejmcm.com/pdf_5575_f0742921c0928060c80f4dfcf00854f6.html
SARS-CoV-2; newborns; dyad-care; colocation; COVID-19; breastfeeding	6-Jan-21	Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Positive Newborns of COVID-19 Mothers After	Cureus	Case Series	The authors report on 5 neonates born to SARS-CoV-2 positive asymptomatic mothers (age range 22-36 years) who also tested positive for SARS-CoV-2 by RT-PCR nasopharyngeal swab after birth from March 19-May 15, 2020 in the US. During this timeframe in the hospital, all staff wore PPE and changed PPE when switching from mother to infant. 130 neonates were tested at the hospital, with only these 5 being SARS-CoV-2 positive. 3 of the deliveries were by c-section, all were > 37 weeks' gestation, none had a prolonged rupture of membranes, and all newborns were colocated with their mothers. Colocation included skin-to-skin care, breastfeeding, ≥6 feet between mother and infant, use of an isolette, a barrier curtain, and the	The authors report on 5 neonates born to SARS-CoV-2 positive mothers in the US who also tested positive for SARS-CoV-2 by RT-PCR nasopharyngeal swab after birth from March 19-May 15, 2020.	Patil UP, Krishnan P, Abudinen-Vasquez S, Maru S, Noble L. Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Positive Newborns of COVID-19 Mothers After Dyad-Care: A Case

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		Dyad-Care: A Case Series			mother practicing frequent hand hygiene and face mask use during breastfeeding. Laboratory and chest radiograph findings for all 5 mothers were within the range for the 3rd trimester of pregnancy. 4 of the neonates tested positive for SARS-CoV-2 soon after birth and 1 tested positive after discharge. The 4 infants were then transferred to the neonatal ICU. All 4 of these infants were asymptomatic and discharged after 2 PCR tests >24 hours apart were negative. Mothers were encouraged to breastfeed with careful hand hygiene practices and face mask use; the infants remained asymptomatic during close follow up. 1 infant had an initial negative RT-PCR test. However, the test at 24 hours of life was positive (obtained after discharge). The patient then followed up in a pediatric infectious disease clinic where he remained asymptomatic and had 2 negative tests on days 7 and 12 of life. The authors state that there may be mother-to-infant transmission of scant amounts of the live virus leading to an initial positive test with subsequent negative tests and an asymptomatic course.		Series. *Cureus*. 2021;13(1):e12528. Published 2021 Jan 6. doi:10.7759/cureus.12528
COVID-19; breastfeeding; donor human milk; infant feeding; milk bank; nutrition; pandemic; prematurity	6-Jan-21	Maintaining human milk bank services throughout the COVID-19 pandemic: A global response	Maternal and Child Nutrition	Original Article	Donor human milk (DHM) is typically used to feed infants with low birth weight when maternal milk is unavailable, reducing the risk of complications and supporting maternal breastfeeding when used alongside lactation support. The COVID-19 pandemic has posed challenges to Human milk banks (HMBs), which help screen and recruit milk donors. This study evaluated the pandemic's impacts on HMB services and offered operational guidance for HMBs during the pandemic. A network of over 80 HMB leaders from 36 countries was formed in March 2020 and included academics and nongovernmental organizations. Individual milk banks, national networks, and regional associations submitted data regarding the number of HMBs, the volume of DHM produced, and the number of recipients in each global region. The experiences of milk banks from each country were collected from March 23 - May 1, 2020, and major themes were identified. According to data from 446 HMBs, more than 800,000 infants receive DHM worldwide each year. 7 pandemic-related vulnerabilities to service provision were identified and discussed: insufficient donors, prescreening disruption, DHM availability, logistics, communication, safe handling, and contingency planning. The authors recommend the following operational adaptations for HMBs during the COVID-19 pandemic: screening donors before face-to-face contact, educate donors on SARS-CoV-2 transmission routes and COVID-19 symptoms and encourage donors who are symptomatic or who have had contact with a suspected or confirmed COVID-19 case in the previous 14 days to delay donation, expression, or storing of milk. HMBs should also communicate with local HMB networks and neonatal units to determine demand and changes to infant-feeding policies and inform units about DHM supply interruptions.	Through the establishment of a network of over 80 Human Milk Bank (HMB) leaders from 36 countries, this study evaluated the impacts of the COVID-19 pandemic on HMB services worldwide and offers operational guidance for HMBs during the pandemic.	Shenker N, Staff M, Vickers A, et al. Maintaining human milk bank services throughout the COVID-19 pandemic: A global response [published online, 2021 Jan 6]. Matern Child Nutr. 2021;e13131. doi:10.1111/mcn.13131
COVID-19; breastfeeding; childhood infections; infant and child nutrition; infant	6-Jan-21	Shared decision-making for infant feeding and care during the coronavirus	Maternal and Child Nutrition	Original Article	Despite decades of research establishing the importance of breastfeeding, skin-to-skin contact, and mother-infant closeness, the authors of this article argue that the COVID-19 pandemic has revealed a common assumption that these practices can be dispensed without consequences to the mother or infant's health. The article begins by highlighting the unintended consequences of these assumptions in the context of the COVID-19	The authors argue that parents should be supported using a shared decision-making process regarding infant-feeding options in the context of the COVID-19 pandemic. This includes discussing	Haiek LN, LeDrew M, Charette C, Bartick M. Shared decision-making for infant feeding and care during the coronavirus

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
care; infant feeding decisions; rooming-in; skin-to-skin contact		disease 2019 pandemic			pandemic. For example, in the absence of clear guidance and evidence-based information, parents may make infant feeding decisions based on SARS-CoV-2 risk alone, without knowing the risks of severe lower respiratory tract infections in infants who are not exclusively breastfed. Furthermore, policies in healthcare settings that separate mothers and infants may fail to consider that families may not have the resources to continue separation at home, meaning any potential benefit may not outweigh the harm of early separation. Early recommendations that urged an abundance of caution while breastfeeding may have negatively impacted breastfeeding practices even in mothers who are not SARS-CoV-2 infected. The authors propose a structure to guide a shared decision-making process surrounding infant feeding practices: (1) offer parents evidence-based information and options to feed and care for an infant in the context of the COVID-19 pandemic, including potential benefits, risks, and uncertainties; (2) help parents recognize the sensitive nature of infant feeding decisions and help them clarify the values they place on different infant feeding options; and (3) provide guidance and support for making decisions and implementing their infant feeding plans.	evidence-based information, offering different options to feed and care for an infant, recognizing the sensitive nature of these decisions, and providing needed support.	disease 2019 pandemic [published online, 2021 Jan 6]. Matern Child Nutr. 2021;e13129. doi:10.1111/mcn.13129
breastfeeding, vaccination, COVID-19, policy	5-Jan-21	Why were breast feeding women in the UK denied the COVID-19 vaccine?	British Medical Journal (BMJ)	Article	After pressure from campaigners, clinicians, and affected women, the UK's Medicines and Healthcare Products Regulatory Agency (MHRA) revised its guidance to enable pregnant and breastfeeding women to receive the COVID-19 vaccine on 30 December 2020. Their initial recommendation to deny the COVID-19 vaccine to breastfeeding women was in contradiction with the EU, US, and Canada, which have allowed women to make decisions based on current evidence on risks and benefits. Despite the policy reversal, the authors pose questions regarding the exclusion of breastfeeding women in the first place. They argue that because there is no plausible biological mechanism for an inactivated, recombinant vaccine to cause harm to a breastfed infant, lack of safety data is not a valid justification for broad exclusions that can put breastfeeding women at unnecessary risk. Furthermore, any theoretical risk must be weighed against the established benefits of acquiring immunity to COVID-19 and of continued breastfeeding. The authors caution that the MHRA's guidance reinforces the idea that breastfeeding is a lifestyle choice, rather than a public health priority. Holding public advisory committee meetings prior to issuing guidance may have allowed for appropriate scrutiny. The authors point to examples of breastfeeding healthcare workers willing to participate in trials of the vaccine's safety, and argue that continued exclusion of breastfeeding women from clinical trials not only reflects but reinforces discrimination against women and undervaluation of breastfeeding to infant health.	The authors of this article argue that the absence of safety and efficacy data are not a valid justification for excluding breastfeeding women from COVID-19 vaccination. They discuss a recent reversal of guidance from the UK that initially denied breastfeeding women access to the COVID-19 vaccine, questioning the rationale of this exclusion, and pointing to a broader trend of undervaluing the health benefits of breastfeeding and the rights of breastfeeding women.	Hare H, Womersley K. Why were breastfeeding women in the UK denied the covid-19 vaccine?. BMJ. 2021;372:n4. Published 2021 Jan 5. doi:10.1136/bmj.n4
racial disparities, inequity, doula	5-Jan-21	Community-Based Doulas and COVID-19: Addressing Structural and Institutional Barriers to	Perspectives on Sexual and Reproductive Health	Viewpoint	Compared with residents of predominantly White US counties, residents of predominantly Black counties have 3x the risk of SARS-CoV-2 infection and 6x the risk of death from COVID-19. Several US studies have demonstrated racial disparities in COVID-19-related pregnancy and birth outcomes. Risk factors for adverse COVID-19–related outcomes include being an essential worker or using public transportation to get to work, higher household density, less access to health care, and disruption of support services for	The authors describe emerging data on US racial disparities in birth outcomes during the COVID-19 pandemic, as well as potential mechanisms for those disparities, and highlight how use of community-based doulas can	Ogunwole SM, Bennett WL, Williams AN, Bower KM. Community-Based Doulas and COVID-19: Addressing Structural and Institutional

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		Maternal Health Equity			pregnant and postpartum people in communities of color. Integrating community-based doulas into health care teams can result in greater feelings of autonomy and personal security, and reduced prevalence of preterm birth and low-birth-weight infants. One study showed that compared with their counterparts in the Pregnancy Risk Assessment Monitoring System, Black mothers enrolled in community-based doula programs were more likely to be exclusively breastfeeding at 6 weeks (71% vs. 56%), 3 months (52% vs. 38%) and 6 months (39% vs. 7%) [no p-values given]. However, hospital visitor restrictions and curtailed in-home visits have disrupted access to doula care. The authors highlight the following steps to improve access to doula services both during and after the pandemic: recognize doulas as essential health care workers; screen doulas for COVID-19 symptoms using the same processes as other healthcare workers; revise hospital policy to allow doulas; increase access to maternity care via telehealth; educate obstetric providers on the role of doulas; support legislation to allow insurance/Medicaid reimbursement for doula care; and partner with community-based doula programs.	mitigate these racial disparities. Specific strategies and policies for expanding access to doula care are also provided.	Barriers to Maternal Health Equity [published online, 2021 Jan 5]. Perspect Sex Reprod Health. 2021;10.1363/psrh.12169. doi:10.1363/psrh.12169
colostrum; breast milk; antibodies; cytokines; SARS-CoV-2	4-Jan-21	Humoral and cell-mediated response in colostrum after exposure to severe acute respiratory syndrome coronavirus 2	medRxiv	Preprint (not peer-reviewed)	This US study evaluated the presence of SARS-CoV-2 antibodies and associated cytokines in the breast milk of women who tested positive for SARS-CoV-2 via PCR. Bilateral colostrum spot card samples were collected March-September 2020 within 48 hours of delivery from 15 new mothers who previously tested positive for SARS-CoV-2 (mean age 32 years; range 21-39 years). 5 of these 15 women also provided liquid colostrum samples within 1-2 days of providing the spot card samples. Archived bilateral colostrum samples collected from 8 women during 2011-2013 were used as pre-COVID-19 controls (mean age 34 years; range 29-40 years). Bilateral colostrum samples from 73%, 73% and 33% of the 15 COVID-19 mothers exhibited IgA, IgG, and IgM reactivity to Receptor Binding Domain (RBD) of the SARS-CoV-2 spike protein, respectively. Colostrum samples from 2 of the 8 pre-pandemic controls showed IgA and IgG reactivity to RBD. The greatest difference in antibody levels between the 2 groups was for IgM ($p<0.0001$), which was 3x higher in the COVID-19 samples. Additionally, COVID-19 mothers had significantly higher levels (all $p<0.05$) of 9 of the 10 inflammatory markers (all except IFNγ) in breastmilk compared to the pre-COVID-19 controls. Comparable results were obtained with both the spot card and liquid samples. The authors conclude these results provide objective data in support of initiating breastfeeding despite maternal SARS-CoV-2 infection. They also conclude that future large-scale studies can be conducted with milk easily collected on paper spot cards.	This US study evaluated the presence of SARS-CoV-2 antibodies and associated cytokines in the breast milk of women who tested positive for SARS-CoV-2 compared to pre-pandemic controls. Breast milk samples from COVID-19 mothers showed significantly higher cytokines (except IFNγ), higher levels of SARS-CoV-2 antibodies (particularly IgM), and greater neutralizing activity. The authors conclude these results provide objective data in support of initiating breastfeeding despite maternal SARS-CoV-2 infection.	Narayanaswamy V, Pentecost B, Alfandari D, et al. Humoral and cell-mediated response in colostrum after exposure to severe acute respiratory syndrome coronavirus 2. medRxiv. 2021:2021.01.03.20248715. doi: 10.1101/2021.01.03.20248715.
breastfeeding, COVID-19, vertical transmission, IPC, breast milk	4-Jan-21	Should COVID-19 Mother Breastfeed her Newborn Child? A Literature Review on the Safety of Breastfeeding for	Current Nutrition Reports	Review	This review examines available evidence on the risks of SARS-CoV-2 transmission from mothers to their newborns through breastfeeding [range of publication dates not specified]. In most of the studies reviewed, breastmilk samples from COVID-19 mothers tested negative for the virus. In the case reports where the virus was detected in breastmilk and the infants were diagnosed with COVID-19, it remained unclear whether the virus was transmitted through breastmilk, direct contact, or through delivery. Some reports suggest the presence of IgG and IgA antibodies in breastmilk, which	Based on limited evidence at the time of this review, the author concludes that if the health of the mother and her newborn allows, direct breastfeeding or extracted breastmilk should be encouraged by healthcare providers, after careful discussion of the risks of	Bhatt H. Should COVID-19 Mother Breastfeed her Newborn Child? A Literature Review on the Safety of Breastfeeding for Pregnant Women with

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
		Pregnant Women with COVID-19			could offer immunity to the newborn from COVID-19. Based on limited evidence at the time of this review, and recognizing the benefits of breastfeeding, the author concludes that if the health of the mother and her newborn allows, direct breastfeeding or extracted breastmilk should be encouraged by the healthcare providers, after a careful discussion of the risks of vertical transmission to the mother and her family. Preventive measures before breastfeeding or extracting breastmilk include handwashing (or sanitizing when soap or water are unavailable), wearing a face mask to cover mouth and nose, cleaning and sanitizing breast pumps, or opting for a healthy caregiver to feed the newborn expressed breastmilk.	vertical transmission to the mother and her family. Current guidelines and preventative measures are summarized.	COVID-19 [published online, 2021 Jan 4]. Curr Nutr Rep. 2021;1-5. doi:10.1007/s13668-020-00343-z
Maternal health, obstetrics, neonate, CDC, surveillance, infants	4-Jan-21	A Preparedness Model for Mother–Baby Linked Longitudinal Surveillance for Emerging Threats	Maternal and Child Health Journal	Original Article	In 2019, the CDC began a 5-year initiative to establish population-based mother–baby linked longitudinal surveillance in the United States, known as the Surveillance for Emerging Threats to Mothers and Babies Network (SET-NET). SET-NET was rapidly adapted to capture information about SARS-CoV-2. Variables were selected for inclusion to address key surveillance questions proposed by CDC and health department experts, including maternal symptoms, complications, and treatment; delivery mode and induction; infant symptoms, complications, test results, and treatment; and whether the infant roomed-in, and/or was ever fed maternal breastmilk (direct or expressed). The system is structured into 4 relational datasets (maternal, pregnancy outcomes and birth, infant/child follow-up, and laboratory testing). SET-NET COVID-19 surveillance is restricted to women with laboratory-confirmed infection. Data on long-term consequences of SARS-CoV-2 infection are unknown, therefore timepoints for follow-up will include the first newborn visit, and the 2- and 6-month well child visits. This innovative approach leverages existing data sources and rapidly collects data to inform clinical guidance and practice. The authors conclude that these data can help to reduce exposure risk and adverse outcomes among pregnant women and their infants, direct public health action, and strengthen public health systems.	This article describes how a population-based mother-baby linked longitudinal surveillance network developed by the CDC, SET-NET, was rapidly adapted to collect longitudinal data regarding SARS-CoV-2. This network will rapidly collect data on pregnant women and infants to help direct public health action and prevent adverse outcomes.	Woodworth KR, Reynolds MR, Burkel V, et al. A Preparedness Model for Mother-Baby Linked Longitudinal Surveillance for Emerging Threats. Matern Child Health J. 2021 Jan 4:1–9. doi: 10.1007/s10995-020-03106-y.
COVID-19; pregnancy; vertical transmission	1-Jan-21	Impact of COVID-19 on Pregnancy	International Journal of Medical Sciences	Systematic Review	This systematic review summarized the possible symptoms, treatments, and pregnancy outcomes of women infected with SARS-CoV-2 during pregnancy. The current knowledge about COVID-19 is limited, and it shares both similarities and differences with SARS and MERS, although COVID-19 appears to be less lethal. However, particular attention should be given to pregnant women with underlying diseases since they are at a higher risk of developing severe COVID-19. Pregnant women with SARS have been reported to have a high miscarriage rate. Hence, an increased risk of miscarriage in women with COVID-19 cannot be ruled out at this stage due to the lack of data on first-trimester SARS-CoV-2 infection. In women with COVID-19 and ongoing pregnancy, surveillance for fetal growth restriction is reasonable, given that fetal growth restriction was observed in most ongoing pregnancies with SARS. In women with SARS and MERS, cesarean section was most commonly indicated due to maternal hypoxemia. As COVID-19 maternal illness does not appear to be as severe as SARS and MERS, the high rate of cesarean section is unreasonable, and further analysis is needed. There is currently no evidence of vertical transmission, and SARS-CoV-2 has	This systematic review summarized the possible symptoms, treatments, and pregnancy outcomes of women infected with SARS-CoV-2 during pregnancy. The current knowledge about COVID-19 is limited, and there is no evidence suggesting vertical transmission. Careful monitoring of both mother and fetus and measures to prevent neonatal infection is warranted during the COVID-19 pandemic.	Wang CL, Liu YY, Wu CH, et al. Impact of COVID-19 on Pregnancy. Int J Med Sci. 2021;18(3):763-767. doi:10.7150/ijms.49923.

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					not been found in the amniotic fluid, umbilical cord blood, neonatal throat swabs, or breast milk. The mode of delivery should therefore depend on obstetric indications and not on COVID-19. Careful monitoring of both mother and fetus and measures to prevent neonatal infection is warranted during the COVID-19 pandemic.		
COVID-19; Disability; Fetal Alcohol Spectrum Disorders; Gestation; Mental Retardation; Pollution	1-Jan-21	Challenges for Midwives' Healthcare Practice in the Next Decade: COVID-19 - Global Climate Changes - Aging and Pregnancy - Gestational Alcohol Abuse	Clinical Therapeutics	Commentary	The authors highlight a number of challenges for midwives' practice in the next decade, including the COVID-19 pandemic. The vulnerability of midwives to SARS-CoV-2 infection is noted, as well as the need for more training for midwives related to the COVID-19 pandemic. Suggested training components include managing a patient with COVID-19, COVID-19 signs and symptoms, screening for COVID-19, use of PPE, management of number of people present during the birth, monitoring fetal well-being using cardio-tocography, providing breastfeeding information to mothers with COVID-19, and preventing transmission of COVID-19 from mother to child after birth. The willingness of midwives to expand their practice through professional development and advanced roles is noted.	This article describes challenges that midwives will experience globally in the next decade, including the COVID-19 pandemic. The willingness of midwives to engage in professional development is noted, along with a number of suggested training components as relates to COVID-19.	D'Angelo A, Ferraguti G, Petrella C, et al. Challenges for Midwives' Healthcare Practice in the Next Decade: COVID-19 - Global Climate Changes - Aging and Pregnancy - Gestational Alcohol Abuse. Clin Ter. 2021;171(1):e30-e36. doi:10.7417/CT.2021.2277
Neonate, resuscitation, PPE, infection control, Singapore	1-Jan-21	Newborn Resuscitation in COVID-19	Annals Academy of Medicine Singapore	Letter to the Editor	In this letter, the authors discuss recommendations for neonatal resuscitation of infants born to mothers with confirmed or suspected COVID-19 in Singapore. They recommend the following: All personnel should don N95 masks, goggles or face shield, full-length water-resistant gowns and gloves. All providers should undergo training in PPE donning and doffing and practice simulations with full PPE. Women with suspected or confirmed COVID-19 infection in labor should be cared for in a negative pressure room or isolation room if available and don a mask. Where high-risk delivery is expected, a designated team limited to 3 personnel should be in attendance with additional help waiting outside the delivery room. To avoid waste, non-essential equipment should be available and staged outside the delivery room. Risks and benefits of cord clamping and skin-to-skin should be discussed with the expectant mother prior to delivery. For vigorous infants, mothers who prefer skin-to-skin with infant after delivery should be supported. In facilitating infant breathing, nasal prong bubble CPAP is discouraged as it may be aerosol generating. Newborns should be transported from the delivery suite in closed incubators, with accompanying staff in full PPE. For low risk and well infants, WHO recommends breastfeeding and skin-to-skin care with infectious control precautions.	In this letter, the authors provide clinical recommendations for neonatal resuscitation of infants born to mothers with confirmed or suspected COVID-19 in Singapore. They recommend that for low-risk infants, breastfeeding and skin-to-skin should be supported with the appropriate infectious control precautions.	Quek BH, Biswas A, Ee KT, Yeo CL. Newborn Resuscitation in COVID-19. Ann Acad Med Singap. 2020 Nov;49(11):909-912. PMID: 33381786.
Case series, neonates, SARS-CoV-2	31-Dec-20	SARS-CoV-2 infection in infants aged 28 days and younger. A multicentre case series	Anales de Pediatria	Letter to the Editor	This is a case series of COVID-19 in 11 infants aged 12 to 27 days (median 16 days) in Spain from March 1 to June 3, 2020 who tested positive for SARS-CoV-2 RT-PCR. Only 2 infants were admitted to the neonatal ICU and received lopinavir-ritonavir and hydroxychloroquine. The most frequent symptom was fever (73%), followed by respiratory symptoms: cough (45%) and breathing difficulty (36%); and gastro-intestinal symptoms: feeding difficulties (36%), nausea/vomiting (27%), and diarrhea (9%). Laboratory values showed that 9 infants had low white cell counts (median value of 3690 cells/uL), 3 patients had high levels of inflammatory markers (C-	This is a case series of COVID-19 in 11 infants aged 12 to 27 days in Spain from March 1 to June 3, 2020. Symptoms, laboratory results, and outcomes are summarized. All cases were assumed by the authors to be the result of horizontal transmission.	Velasco Rodríguez-Belvís M, Medina Benítez E, García Tirado D, et al. SARS-CoV-2 infection in infants aged 28 days and younger. A multicentre case series. Anales de

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					reactive protein or procalcitonin), and 1 infant had hyperbilirubinemia. Length of stay ranged from 3 to 11 days, with a median of 5 days. Most infants with SARS-CoV-2 had mild presentations, which aligns with previously reported cases. All cases were assumed to be the result of horizontal transmission since positive SARS-CoV-2 occurred at least 12 days after birth. This case series reveals how SARS-CoV-2 infection can occur in infants under 28 days of age. Although most neonates had mild symptoms and good outcomes, some infants may require intensive care, demonstrating the importance of infection control.		Pediatría (English Edition). Published online December 31, 2020. doi:10.1016/j.anpede.2020.12.005
breast milk, lactation research, COVID-19, pandemics, best practices, SARS-CoV-2	30-Dec-20	Best Practices for Human Milk Collection for COVID-19 Research	Breastfeeding Medicine	Article	Until high-quality data are generated to determine the safety of breastfeeding during a pandemic, breastfeeding is often abandoned due to uncertainty; the same is true during the COVID-19 pandemic. This article provides best practices and ethical considerations for collecting human milk samples for COVID-19 research. The article begins by offering working definitions for the following terms: foremilk, hindmilk, complete breast expression, colostrum, transitional milk, mature milk, exclusive breastfeeding, complementary feeding, hand expression, subclinical vs clinical mastitis, and milk fraction. The authors then summarize factors that can impact milk composition (time of day, time postpartum, method of expression, foremilk vs hindmilk vs complete expression, left vs right breast, breast cleaning, and collection container material) with regard to their effect on viral DNA/RNA, bacterial DNA and microbial viability, antibodies, immune cells, cytokines, and other soluble factors. A 3-step process is outlined for the collection of milk, and specific recommendations are made regarding temperature and storage, with consideration for the stability of SARS-CoV-2 RNA. Because of limited data on the stability of SARS-CoV-2 during cold storage, the authors recommend analysis of fresh milk, freezing samples at the lowest temperature until analysis, creating aliquots to avoid freeze-thaw cycles of samples, and carefully documenting temperatures of stored samples. When detecting SARS-CoV-2 RNA through quantitative PCR in spiked milk samples, defatted milk yielded better recovery rates than did whole milk. The authors also discuss ethical considerations of human milk research, particularly when milk supply is limited and/or when the infant's health is at risk. Finally, the authors present a checklist for collecting human milk, in light of an infectious disease.	This article provides best practices and ethical considerations for collecting human milk samples for COVID-19 research, including factors that can impact milk composition with regard to their effect on viral DNA/RNA, antibodies, immune cells, cytokines, and other soluble factors. They also outline a 3-step process for milk collection, with recommendations for storage based on current evidence on SARS-CoV-2 viability, and present a detailed checklist for researchers.	McGuire MK, Seppo A, Goga A, et al. Best Practices for Human Milk Collection for COVID-19 Research [published online, 2020 Dec 30]. Breastfeed Med. 2020;10.1089/bfm.2020.0296. doi:10.1089/bfm.2020.0296
COVID-19; children; transmission; MIS-C	29-Dec-20	Severe acute respiratory syndrome-Coronavirus-2 infection: A review of the clinical-pathological correlations of Coronavirus disease-19 in children	The Malaysian Journal of Pathology	Review	The authors present an overview of SARS-CoV-2 infection, clinical presentation, laboratory tests, and the current understanding of the pathological basis of COVID-19 in the pediatric population. Children are relatively spared of this disease that can culminate in acute respiratory distress syndrome, multi-organ failure, and death. SARS-CoV-2 infection induces exuberant release of pro-inflammatory mediators, causing a "cytokine storm" and hyper-coagulable states that underlie these complications. Median incubation period for the virus is 5.1 days, with most patients developing symptoms by 11.5 days. It is highly infectious, spreading via the horizontal mode of transmission. There is very limited evidence of vertical transmission to the fetus/infant occurring either trans-placentally or through breastfeeding. Various immune factors during childhood may	The authors present an overview of SARS-CoV-2 infection, clinical presentation, laboratory tests, and the current understanding of the pathological basis of COVID-19 in the pediatric population. There is very limited evidence of vertical transmission to the fetus/infant occurring either trans-placentally or through breastfeeding. Although most children present mild to no symptoms, some may	Teo JTR, Abidin NH, Cheah FC. Severe acute respiratory syndrome-Coronavirus-2 infection: A review of the clinicalpathological correlations of Coronavirus disease-19 in children. Malays J Pathol. 2020;42(3):349-361.

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					modulate the expression of COVID-19, with MIS-C at the severe end of the disease spectrum. All children diagnosed with MIS-C have fever, with other organ involvement that could include the gastro-intestinal (abdominal pain, nausea/vomiting, diarrhea), dermatological (rash, swollen hands/feet), mucocutaneous (conjunctivitis, mucosal changes) and cardiovascular (chest pain) systems.	succumb to MIS-C, which is at the severe end of the disease spectrum.	
COVID-19; childbirth; pregnancy; post-traumatic stress disorder; maternal bonding; breastfeeding; peripartum care	28-Dec-20	COVID-19 is associated with traumatic childbirth and subsequent mother-infant bonding problems	Journal of Affective Disorders	Short Communication	In this study, the investigators highlighted the challenges faced by women during childbirth in the COVID-19 pandemic (primarily March-April 2020) (n =1,611), comparing them to pre-pandemic deliveries (n =640). They used an anonymized survey to determine birth-related traumatic stress (CB-PTSD), maternal bonding, and breastfeeding status of respondents, and matched them to pre-pandemic controls. On average, participants were 32 years old [range not included], were 2 months post-partum, resided in the USA (86%), delivered a healthy neonate at term (85%), and had a vaginal delivery (72%), with none having suspected/confirmed SARS-CoV-2 infection. For women matched on background characteristics, those giving birth during the pandemic reported higher acute stress responses to childbirth compared to controls (OR = 1.38, 95% CI: 1.01–1.89), which was also associated with CB-PTSD (β =0.42, p <0.001), problems with bonding (β =0.26, p <0.001), and breastfeeding problems (β =0.10, p <0.01). Therefore, the authors suggested the significant exacerbation of childbirth-related stress during the COVID-19 pandemic, that may interfere with maternal postpartum adjustment and long-term health outcomes of mother and child. They recommended mental health screenings and breastfeeding support, among other measures, to reduce stress and improve peripartum care.	Upon comparing women who gave birth before and during the COVID-19 pandemic, the authors found a significant increase in the odds of acute stress responses amongst the latter. The acute stress responses were associated with impaired maternal-infant bonding and birth-related post-traumatic stress. Thus, the authors recommended implementing measures such as breastfeeding support and mental health screenings for women at risk.	Mayopoulos GA, Ein-Dor T, Dishy GA, et al. COVID-19 is associated with traumatic childbirth and subsequent mother-infant bonding problems. J Affect Disord. 2020 Dec 28;282:122-125. doi: 10.1016/j.jad.2020.12.101. Epub ahead of print. PMID: 33412491.
Vertical transmission, neonate, infant, breastfeeding	28-Dec-20	Authors' reply re: Maternal transmission of SARS-COV-2 to the neonate, and possible routes for such transmission: a systematic review and critical analysis	British Journal of Obstetrics and Gynecology (BJOG)	Letter	In this response, the authors reply to a letter by Dr. Xue from Shanghai Jiao Tong University on their article "Maternal transmission of SARS-COV-2 to the neonate, and possible routes for such transmission: a systematic review and critical analysis" by Walker, et al. The authors agree there were weaknesses in the data they reviewed, including the incomplete reporting of infant feeding and mother–child interactions and the frequent lack of infant testing to confirm or refute the possibility of vertical transmission of COVID-19. Finally, although they simply provided summary totals, they feel it would have been statistically preferable to combine series using the Mantel–Haenszel method and calculate a relative risk for their data. However, in light of the uncertainties around the data which Dr. Xue identified, they felt it might give a false precision to their results. More work is needed on this topic, and the authors conclude that they continue to believe it is in the best interest of the mother and infant not to regard COVID-19 itself as an indication for caesarean delivery, artificial infant feeding or mother-infant separation.	The authors reply to a letter by Dr. Xue regarding their article "Maternal transmission of SARS-COV-2 to the neonate, and possible routes for such transmission: a systematic review and critical analysis." Despite the challenges identified in often-incomplete data, lack of infant testing, and lack of relative risk calculations, the authors conclude that for now they continue to believe COVID-19 itself is not an indication for C-section delivery, artificial infant feeding, or mother infant separation.	Walker KF, O'Donoghue K, Grace N, Dorling J, Comeau JL, Li W, Thornton JG. Authors' reply re: Maternal transmission of SARS-COV-2 to the neonate, and possible routes for such transmission: a systematic review and critical analysis. BJOG. 2020 Dec 28. doi: 10.1111/1471-0528.16436.
breastfeeding; pandemic; social support; qualitative	23-Dec-20	Social Support during COVID-19: Perspectives of Breastfeeding Mothers	Breastfeeding Medicine	Article	This cross-sectional phenomenological study utilized semi-structured interviews of 29 breastfeeding mothers from March-June 2020 to explore social support perceptions during the COVID-19 pandemic. Social support has been previously shown to affect breastfeeding positively and has been divided into four types: emotional, instrumental, informational, and appraisal. Average age of the mothers was 29.93 years (29.9 ± 5.28 years;	The authors sought to explore perceptions of social support for breastfeeding during the COVID-19 pandemic. Social support has previously been shown to impact breastfeeding positively, and the	Snyder K, Worlton G. Social Support During COVID-19: Perspectives of Breastfeeding Mothers [published online

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					range 19-42 years), 79% identifying as Caucasian (10% Hispanic), 31% reported working in healthcare, 24% unemployed, with 38% enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children. The women were asked to describe who provides them with each type of social support and how that support is provided. Impact on emotional support included increased stress and lack of in-person support from anyone other than their significant other; informational support was impacted by a heavy reliance on tele-support and concerns for returning to work; instrumental support was affected by lack of childcare; appraisal was affected by lack of in-person support and the need for reliance on tele-support. One positive influence noted in the study was that women were motivated to continue breastfeeding due to formula shortages and more time at home to establish breastfeeding practices. The authors suggest that health care providers continue to find innovative ways to support breastfeeding mothers and that organizations continue family-friendly practices to support breastfeeding mothers' post-pandemic.	COVID-19 pandemic has created unforeseen challenges, including accessing breastfeeding support.	ahead of print, 2020 Dec 23]. Breastfeed Med. 2020;10.1089/bfm.2020.0200. doi:10.1089/bfm.2020.0200
vertical transmission, placenta, amniotic fluid, breast milk, vaginal secretions, SARS-CoV-2	22-Dec-20	Exploring the emergence of vertical transmission of SARS-CoV-2: A Rapid Review	Acta Biomedica	Rapid Review	To study the plausibility of vertical transmission of SARS-CoV-2, the authors conducted a rapid review of available literature [time period not specified] using the keywords; “COVID-19 vertical transmission”, “SARS-CoV-2 pregnancy”, and “SARS-CoV-2 vertical transmission”. Among all reported COVID-19 pregnancies only those cases with SARS-CoV-2 infection in the neonate confirmed by RT-PCR were studied in detail. While a review of 55 pregnancies did not show any evidence of vertical transmission, a total of 6 studies comprising 11 newborns presented strong arguments in favor of vertical transmission of SARS CoV-2; these cases are organized in a table detailing gestational age, clinical symptoms, testing details of mother and newborn (RT-PCR and antibody tests), cytokine IL-6 levels, RT-PCR results of amniotic fluid, placental tissue, vaginal secretions, and breast milk samples, prophylactic treatment, and the authors' conclusions. Of the cases that tested amniotic fluid for SARS-CoV-2 RNA (n=2), one sample obtained at the time of delivery was positive, which the authors consider a strong indicator of vertical transmission. Of the cases in which breast milk was tested (n=2), neither sample was positive for SARS-CoV-2 RNA. Only one included case involved testing of vaginal secretions, and only one involved testing of placental tissue and results were negative in both cases. The authors recommend a planned prospective approach to determine the possibility and risk of vertical transmission, utilizing repeated molecular testing of all the specimens enumerated above to rule out false negatives. Pregnancy with COVID-19 has been associated with preterm birth in >20% cases and perinatal death in 7% which suggests that fetal risk associated with maternal SARS-CoV-2 infection is also worth investigating.	This rapid review summarizes 6 studies comprising 11 newborns with possible vertical transmission of SARS-CoV-2. Details include gestational age, clinical symptoms, RT-PCR and antibody tests of mother and newborn, cytokine IL-6 levels, prophylactic treatment, and RT-PCR results of amniotic fluid, placental tissue, vaginal secretions, and breast milk samples. The authors consider all 11 cases to suggest vertical transmission.	Jain V, Kanchan T, Krishan K. Exploring the emergence of vertical transmission of SARS-CoV-2: A Rapid Review. Acta Biomed. 2020;91(4):e2020129. Published 2020 Dec 22. doi:10.23750/abm.v91i4.10852
breastfeeding, rooming-in, maternal-infant separation, skin-to-skin contact,	22-Dec-20	Misalignment of global COVID-19 breastfeeding and newborn care guidelines with World	British Medical Journal (BMJ) Nutrition, Prevention, and Health	Original Research	The authors reviewed 68 COVID-19 guidance documents for maternal and newborn care from 33 countries (published 8 February-25 April 2020), assessing alignment with WHO recommendations and the extent to which each policy supported or undermined breastfeeding. Alignment to WHO recommendations was assessed in the following areas: (1) skin-to-skin contact; (2) early initiation of breastfeeding; (3) rooming-in; (4) direct	This study reviewed international COVID-19 guidance documents for maternal and newborn care from 33 countries assessing alignment with WHO recommendations in the following areas: skin-to-skin	Vu Hoang D, Cashin J, Gribble K, et al. Misalignment of global COVID-19 breastfeeding and newborn care

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international guidance, vertical transmission, SARS-CoV-2, COVID-19		Health Organization recommendations			breastfeeding; (5) provision of expressed breastmilk; (6) provision of donor human milk; (7) wet nursing; (8) provision of breastmilk substitutes; (9) psychological support for separated mothers; and (10) psychological support for separated infants. The authors found considerable inconsistency in recommendations. Recommendations against practices supportive of breastfeeding were common, even in countries with high infant mortality rates (IMR). 16/33 countries (48%) recommended against direct breastfeeding (either not recommended, recommended only with family preference, or only after mother and infant tested negative for SARS-CoV-2). Neither low country income nor high IMR predicted level of alignment with WHO recommendations. The most influential document, cited by 41% of examined country guidance, was the US CDC guidance published on 18 February 2020, which initially recommended isolation of mothers with COVID-19 from their infants before becoming more supportive of maternal–infant proximity and breastfeeding on 4 April 2020. The authors also note that international guidance rarely mentions psychological support for separated mothers and infants. None of the guidelines aligned with WHO guidance in all 10 areas, which the authors attribute to the early presence of influential guidance conflicting with WHO recommendations, lack of international consistency, and an overall undervaluing of the importance of maternal proximity and breastfeeding to infant health.	contact; early initiation of breastfeeding; rooming-in; direct breastfeeding; provision of expressed breastmilk; provision of donor human milk; wet nursing; provision of breastmilk substitutes; and psychological support for separated mothers and infants. The authors note a lack of consistency in international guidelines, and an overall undervaluing of the importance of maternal proximity and breastfeeding to infant health.	guidelines with World Health Organization recommendations. BMJ Nutrition, Prevention & Health 2020;0. doi:10.1136/ bmjnph-2020-000184
Pregnancy, birth outcomes, lockdown, Botswana	18-Dec-20	Modest reduction in adverse birth outcomes following the COVID-19 lockdown	American Journal of Obstetrics and Gynecology	Original Research	This study evaluated the association between COVID-19 lockdown and adverse birth outcomes in Botswana. Data from a nationwide birth outcomes surveillance study was utilized. Using difference-in-differences analyses, the authors compared pre-lockdown (January 1-April 2, 2020) to lockdown periods (April 3-May 7, 2020) relative to the same two periods in 2017-2019, and additionally assessed the net change in each outcome from pre-lockdown (January 1-April 2) to post-lockdown periods (May 8-July 20) in 2020 relative to the same periods in 2017-2019. 68,448 women were included in the analysis. Across all time periods, the risk of any adverse outcome ranged from 27.92% -31.70% and the risk of any severe adverse outcome ranged from 8.40% -11.38%. Lockdown was associated with a 0.81% reduction (95% CI, -2.95%, 1.30%) in the risk of any adverse outcome (3% relative reduction (RR)) and a 0.02% reduction (95% CI, -0.79%, 0.75%) in the risk of any severe adverse outcome (0% RR). The post-lockdown period was associated with a 1.72% reduction (95% CI, -3.42%, -0.02%) in the risk of any adverse outcome (5% RR) and a 1.62% reduction (95% CI, -2.69%, -0.55%) in the risk of any severe adverse outcome (14% RR). The authors conclude that adverse birth outcomes decreased from the pre-lockdown to lockdown periods, and pre-lockdown to post-lockdown periods in 2020 in Botswana, relative to the change during the same periods in 2017-2019.	The authors evaluated the association between COVID-19 lockdown and the risk of adverse birth outcomes in Botswana, and found that adverse birth outcomes decreased from the pre-lockdown to post-lockdown periods in 2020, relative to the change during the same periods in 2017-2019.	Caniglia EC, Magosi LE, Zash R, et al. Modest reduction in adverse birth outcomes following the COVID-19 lockdown, American Journal of Obstetrics and Gynecology (2021), doi: https://doi.org/10.1016/ j.ajog.2020.12.1198.

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anxiety; COVID-19; depression; knowledge; nursing; postpartum women; Turkey	18-Dec-20	Anxiety, depression, and knowledge level in postpartum women during the COVID-19 pandemic	Perspectives in Psychiatric Care	Article	To determine the effect of the COVID-19 pandemic on anxiety, depression, and COVID-19 knowledge on postpartum women, the authors conducted a cross-sectional study from May-July 2020 of women who had given birth in a training and research hospital in Turkey after March 15, 2020. The mean age of women in the study was 29.49 years ± 5.01; there was no statistical difference found between sociodemographic variables and depression status, except those employed had a higher rate of depression (p=0.001). Other factors affecting depression were living with relatives who had tested positive for SARS-CoV-2 (p=0.002), and women who stated they were significantly affected by the pandemic had higher depression rates (p<0.001). There was no statistical significance between COVID-19 knowledge and depression, but fear of infecting the infant during breastfeeding (p=0.03), fear of being infected themselves (p=0.01), and fear of being in a high-risk group (p<0.001) all had statistical significance for depression. The authors found that 34% of postpartum women in the study were at risk for postpartum depression, with pre-pandemic rates of 19-25% in middle-income countries and 7-15% in developed countries. The authors state that due to increased stressors for women during the postpartum period and the COVID-19 pandemic, plans of care should include assessing for and treating symptoms of anxiety and depression.	This cross-sectional descriptive survey conducted in Turkey examined the impact of the COVID-19 pandemic on post-partum depression, anxiety, and depression symptoms. Women who were working, and those with fears of becoming infected, infecting the infant during breastfeeding, and being in a high-risk group all had higher depression scores. The authors recommend the plan of care for pregnant women include assessment and treatment for these symptoms.	Guvenc G, Yesilcinar İ, Ozkececi F, et al. Anxiety, depression, and knowledge level in postpartum women during the COVID-19 pandemic [published online, 2020 Dec 18]. Perspect Psychiatr Care. 2020;10.1111/ppc.12711. doi:10.1111/ppc.12711
children, infants, neonates, COVID-19, MIS-C, outcomes, France	15-Dec-20	Factors Associated With Severe SARS-CoV-2 Infection	Pediatrics	Regular Article	Initial reports on SARS-CoV-2 infections in children suggest that very young age and comorbidities may increase the risk of severe COVID-19. To analyze the clinical spectrum of pediatric SARS-CoV-2 infection and predictors of severe COVID-19, the authors conducted a national prospective surveillance study in France of 397 children [age criteria not specified] hospitalized with SARS-CoV-2 infection (confirmed by RT-PCR or by chest CT) from February 15 - June 1, 2020. Data were gathered from 60 hospitals. The main outcome of interest was the proportion of children with severe COVID-19, defined by the requirement of hemodynamic or ventilatory support (invasive or not). The median age was 16 months (IQR 51 days – 134 months) [age range not reported]. The main symptoms were fever, cough, feeding difficulties, shortness of breath/dyspnea, and diarrhea. The authors identified 4 clinical patterns: 1) pauci-symptomatic children admitted for surveillance (n= 148, 37%); 2) SARS-CoV-2 infection requiring hospital care (n=158, 40%); 3) MIS-C (n=29, 7%); or 4) hospitalization for another disease and tested due to hospital-wide surveillance (n= 62, 16%). Children <90 days old accounted for 37% of cases (145/397), but only 4 (3%) had severe COVID-19. Excluding children with MIS-C (n=29) and hospitalized for a diagnosis not related to SARS-CoV-2 (n=62), 23/306 (11%) children had severe disease, including 6 deaths. Factors independently associated with COVID-19 severity were age ≥10 years (OR=3.4, 95% CI [1.1; 10.3]), hypoxemia (OR=8.9 [2.6; 29.7]), and C-reactive protein ≥80 mg/L (OR=6.6 [1.4; 27.5]). In contrast with preliminary reports, young age was not an independent factor associated with severe SARS-CoV-2 infection, and children <90 days old were at the lowest risk of severe COVID-19.	The authors conducted a national prospective surveillance study in France of 397 children hospitalized with SARS-CoV-2 infection from February 15 - June 1, 2020. Factors independently associated with COVID-19 severity were age ≥10 years, hypoxemia, and C-reactive protein ≥80 mg/L. In contrast with preliminary reports, children <90 days old were at the lowest risk of severe COVID-19.	Ouldali N, Yang DD, Madhi F, et al. Factors Associated With Severe SARS-CoV-2 Infection [published online, 2020 Dec 15]. Pediatrics. 2020;e2020023432. doi:10.1542/peds.2020-023432

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Child self-regulation; Childhood obesity; Feeding practices; Hormones; Infant weight gain; Inflammatory makers; Parenting; Postnatal; Prenatal; Prospective longitudinal study	14-Dec-20	Protocol for iGrow (Infant Growth and Development Study): biopsychosocial predictors of childhood obesity risk at 2 years	BioMed Central (BMC) Public Health	Protocol	The authors describe the rationale and methods of iGrow (Infant Growth and Development Study) along with efforts to mitigate complications of the COVID-19 pandemic to the study's success. iGrow is a prospective, longitudinal community-based study of 300 mothers that will evaluate multiple pathways by which prenatal maternal psychobiological risk predicts infant weight gain over the first 6 months of life and how this early weight gain impacts risk for obesity at age 2 years. However, the 2-cohort design has resulted in 175 women recruited prior to COVID-19-related research suspension, with an anticipated 130 additional women to be recruited once research resumes (to account for possible attrition). Researchers added 4 items to their measure of life stressors to test as possible covariates: if the mother had confirmed/suspected COVID-19, a family member had confirmed/suspected COVID-19, the mother had to care for/work with someone with confirmed/suspected COVID-19, or COVID-19 altered the mother's daily routine. Researchers will also consider the proximity to significant local events related to COVID-19 as covariates. Other key measures will include (a) maternal demographics, stress, well-being, feeding practices (feeding type, mode, duration of exclusive breastfeeding, timing of solid food introduction, infant diet), and child health; (b) direct observation of maternal and infant behavior during feeding, play, and distress-eliciting tasks (indicated by infant's heart rate); (c) anthropometric measures of mothers and infants; and (d) assays of maternal prenatal blood and infant saliva and urine.	The authors describe the rationale and methods of iGrow (Infant Growth and Development Study) along with efforts to mitigate complications of the COVID-19 pandemic to the study's success. Additional COVID-19-related study variables are detailed.	Leerkes EM, Buehler C, Calkins SD, Shriver LH, Wideman L. Protocol for iGrow (Infant Growth and Development Study): biopsychosocial predictors of childhood obesity risk at 2 years. BMC Public Health. 2020;20(1):1912. Published 2020 Dec 14. doi:10.1186/s12889-020-10003-0
infants, neonates, outcomes, SARS-CoV-2, COVID-19, malnutrition, anemia, India	14-Dec-20	Severe Malnutrition and Anemia Are Associated with Severe COVID in Infants [Free Access to Abstract Only]	Journal of Tropical Pediatrics	Case Series	This article describes the demographic, epidemiologic, clinical, radiological, laboratory features and outcomes of infants [age criteria not specified] with SARS-CoV-2 infection confirmed by RT-PCR and admitted to a teaching hospital in Pune, India 1 April - 7 August, 2020. A total of 13 infants were included; the median age was 8 months (range 3-13 months) and 9 were male. Common presenting features were fever (n=8, 62%), poor feeding, irritability, and runny nose (n=3, 23%). Comorbidities included severe acute malnutrition (SAM) in 3 cases (23%) and nutritional megaloblastic anemia, iron deficiency anemia, sickle thalassemia and renal calculi in 1 case (8%) each. There was a history of low birth weight in 2 cases (15%), pallor was noted in 3 cases (23%), and tachypnea and respiratory distress in 4 cases (30%). Severe anemia, thrombocytopenia, elevated ferritin, abnormal procalcitonin, abnormal C-reactive protein, and deranged D-dimer was noted in 3 cases (23%) each. Neutrophil-lymphocyte ratio was normal in all cases. 3 infants (43%) had evidence of pneumonia on chest radiograph, of which 1 had adult respiratory distress syndrome (ARDS)-like patterns and 1 infant had cardiomegaly and perihilar infiltrates. 1 infant (13 months old) died of ARDS with multi-organ dysfunction with refractory shock and hemophagocytic lymphohistiocytosis. The authors note that India still has a huge burden of malnutrition and anemia in children which may explain differences in risk factors observed in this case series than in reports from other countries. Laboratory abnormalities described in this series are consistent with those described in adults with severe COVID-19 except for 2	This case series describes the demographic, epidemiologic, clinical, radiological, laboratory features, and outcomes of 13 infants with SARS-CoV-2 infection admitted to a teaching hospital in Pune, India 1 April - 7 August, 2020. Results demonstrate that infants can develop severe COVID-19, particularly in those who have severe acute malnutrition and anemia, although larger studies are needed to confirm this.	Kulkarni R, Rajput U, Dawre R, et al. Severe Malnutrition and Anemia Are Associated with Severe COVID in Infants [published online, 2020 Dec 14]. J Trop Pediatr. 2020;fmaa084. doi:10.1093/tropej/fmaa084

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					notable abnormalities: direct hyperbilirubinemia, seen in 4 cases, and normal neutrophil–lymphocyte ratio in all cases.		
SARS-CoV-2, neonatal outcome, breastfeeding, hygiene, postpartum care, vertical transmission, COVID-19	12-Dec-20	Epidemiology, management and risk of SARS-CoV-2 transmission in a cohort of newborns born to mothers diagnosed with COVID-19 infection	Anales de Pediatria	Original Research	The authors present the results of an observational, prospective study in one hospital in Spain evaluating the outcomes of neonates born to mothers with documented SARS-CoV-2 infection between March 15-August 17, 2020. Care of the mother/neonate dyad included adherence to a closed circuit of hospital care as well as the Sociedad Española de Neonatologia's guidelines promoting skin-to-skin contact, breastfeeding, mask/hand hygiene and rooming-in accommodations. 73 mothers were included (median age 34 years, IQR 27-37); 71 had singleton pregnancies and 2 had twin pregnancies. Most (95.9%) maternal SARS-CoV-2 infections were diagnosed in the third trimester, with 4.1 % diagnosed in the second trimester. Median neonatal weight was 3050 g (IQR 2780-3450). The authors report median gestation age at birth as 38 weeks (IQR 37-40), although the authors also state that 20% (15/75) of infants were born preterm. 16% of neonates required resuscitation, and one, born at 24 weeks' gestation, required intubation. 19 infants required neonatal ICU admission. 2 patients died (one each with necrotizing enterocolitis or severe hypoxic ischemic encephalopathy). Most neonates received skin-to-skin contact (68%), delayed cord clamping (57.3%), and exclusive breastfeeding with maternal milk (64%). The first neonatal SARS-CoV-2 PCR, conducted before 24 hours of age, was negative for all 75 infants. Follow-up testing at 14 days was possible in 54 neonates (72%), all of whom were asymptomatic. One PCR test was positive.	The authors present a maternal/neonatal dyad study showing no vertical transmission of SARS-CoV-2 to neonates born to SARS-CoV-2-positive mothers. They also show the relative safety of skin-to-skin contact, maternal/child rooming-in accommodations, and breastfeeding, while adhering to masking and hand hygiene guidelines. 64% of neonates were exclusively breastfed.	Solís-García G, Gutiérrez-Vélez A, Pescador Chamorro I, et al. Epidemiology, management and risk of SARS-CoV-2 transmission in a cohort of newborns born to mothers diagnosed with COVID-19 infection. An Pediatr (Engl Ed). 2021 Jan 26. doi: 10.1016/j.anpede.2020.12.006. Epub ahead of print. PMID: 33521167; PMCID: PMC7834971.
Infant, vertical transmission, respiratory failure, critical care, convalescent plasma, remdesivir	11-Dec-20	SARS-CoV-2 pneumonia in a newborn treated with remdesivir and COVID-19 convalescent plasma	Journal of the Pediatric Infectious Diseases Society	Case Report	The authors present a case of a newborn with SARS-CoV-2 suspected to be vertically acquired. A 15-year-old woman presented at 40 weeks gestation with contractions in Florida, USA. Universal testing returned positive for SARS-CoV-2 and she developed fever prior to delivery. A female infant was delivered vaginally without complications. Apgar scores were 8 and 9 at 1 and 5 minutes of life. The infant roomed in with the mother with the open bassinet situated 6 feet apart except when feeding. The mother attempted breastfeeding during the first day. When breastfeeding, mothers were instructed to wash their hands and breasts prior to each feed and wear a level 3 mask. Both patients were under strict contact and enhanced droplet isolation per hospital protocol. Infant SARS-CoV-2 testing obtained at 24 hours of life returned positive for SARS-CoV-2. At 25 hours, she became febrile, tachycardic, and tachypneic and was started on antibiotics and nasal continuous positive airway pressure (CPAP). On day of life (DOL) 4, the infant had oxygen desaturations requiring increased CPAP. Chest radiograph revealed prominent bilateral perihilar interstitial markings. Remdesivir was started under compassionate use. On DOL 5, the infant had acute respiratory failure requiring intubation. Convalescent COVID-19 plasma was administered under compassionate use on DOL 8. She was intubated and ventilated for 13 days and on positive pressure support for 30 days before eventually weaning off respiratory support. The authors conclude this was likely a case of vertically acquired COVID-19.	The authors present a case of a newborn born to a SARS-CoV-2 positive mother who tested positive for SARS-CoV-2 at 24 hours of life. She developed respiratory failure and was treated with ventilatory support, remdesivir, and convalescent plasma. The authors conclude this was likely a case of vertically acquired COVID-19.	Hopwood AJ, Jordan-Villegas A, Gutierrez LD, et al. SARS-CoV-2 pneumonia in a newborn treated with remdesivir and COVID-19 convalescent plasma. J Pediatric Infect Dis Soc. 2020; doi:10.1093/jpids/piaa165
PTSD, post-partum	10-Dec-20	Birth experience during COVID-19	British Medical	Protocol	The absence of companionship during childbirth is known to cause difficult emotional birth experience and increase the risk of postpartum depression	The authors present the protocol for a national multicenter	Bertholdt C, Epstein J, Banasiak C, et al. Birth

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depression, confinement, breastfeeding, France, COVID-19, pregnancy, childbirth, mental health		confinement (CONFINE): protocol for a multicentre prospective study	Journal (BMJ) Open		and post-traumatic stress disorder. In the longer term, maternal mental illness can have a negative impact on the mother–child interaction and on marital and family relationships. The authors present the protocol for a national multicenter prospective cohort study in France that will compare mothers' sense of control during childbirth between a group of women who gave birth during confinement ('confinement' group) versus a group of women who gave birth after confinement but in the context the COVID-19 epidemic ('epidemic' group) versus a group of control women ('control' group; excluding confinement and epidemic context). They expect to include 927 women in a period of 16 months. Women will be recruited immediately in post-partum during 3 different time periods. The maternal sense of control will be evaluated by the Labour Agentry Scale questionnaire completed immediately in post-partum. Postnatal depression (Edinburgh Postnatal Depression Scale), post-traumatic stress disorder (Impact of Event Scale-Revised) and breastfeeding (evaluative statement) will be evaluated at 2 months post-partum. The enrollment of women started in April 2020 and full recruitment should be achieved by August 2021.	prospective cohort study in France that will compare mothers' sense of control during childbirth between 3 groups: women who gave birth during confinement ('confinement' group), women who gave birth after confinement but in the context the COVID-19 epidemic ('epidemic' group), and women who gave birth outside of the COVID-19 epidemic context and without confinement ('control' group).	experience during COVID-19 confinement (CONFINE): protocol for a multicentre prospective study. BMJ Open. 2020;10(12):e043057. Published 2020 Dec 10. doi:10.1136/bmjopen-2020-043057
SARS-CoV-2, COVID-19, Pregnant Woman, Neonates, Fetuses, Newborns, Fetal Outcome, Maternal Outcome, Vertical Transmission	9-Dec-20	COVID-19 Infection in Pregnant Women: Review of Maternal and Fetal Outcomes	International Journal of Gynaecology and Obstetrics	Review	The authors reviewed literature from January 1 to August 31, 2020, assessing the effect of SARS-CoV-2 infection in pregnancy, including maternal and fetal outcomes, vertical transmission, and the benefits of screening for SARS-CoV-2 in pregnant women. The results showed no evidence that pregnant women are at higher risk of getting SARS-CoV-2 infections than non-pregnant women. A meta-analysis by Dubey et al. reported that rates of cesarean deliveries and adverse pregnancy outcomes were substantially higher in Chinese studies than American and European studies. However, the rates of preterm births were lower in American studies compared to Chinese and European studies. SARS-CoV-2 infected pregnant women with comorbidities were more likely to develop complications than those without comorbidities. Maternal complications, including pneumonia, premature rupture of membranes, and gestational hypertension and pre-eclampsia, were common. However, maternal morbidity and mortality were low. Neonatal outcomes mostly included preterm births (39%), fetal distress (43%), intrauterine growth retardation (10%), miscarriage (2%), and perinatal death (7%). The current data does not suggest a high risk of abortion or premature gestational loss. Regarding vertical transmission, multiple studies confirmed the absence of SARS-CoV-2 isolates in the amniotic fluid, cord blood, breast milk, and neonatal throat swabs. Both the American College of Obstetricians and Gynecologists and the Royal College of Obstetricians and Gynecologists recommend screening pregnant women for SARS-CoV-2 to prevent disease transmission. The authors concluded that there is currently limited knowledge about SARS-CoV-2 infections in pregnancy.	The authors conducted a literature review to assess the effect of SARS-CoV-2 infections in pregnancy on maternal and fetal outcomes. Although there is an increased risk of maternal complications in pregnant women infected with SARS-CoV-2 with co-morbidities, overall maternal and neonatal mortality rates were low. Though uncommon, the authors caution that vertical transmission is possible.	Salem D, Katranji F, Bakdash T. COVID-19 infection in pregnant women: Review of maternal and fetal outcomes [2020 Dec 10]. International Journal of Gynaecology & Obstetrics. 2020;10.1002/ijgo.13533. doi:10.1002/ijgo.13533
COVID-19; PICU; infant; gastrointestinal; breastfeeding	7-Dec-20	COVID-19 and coinfection with Clostridioides (Clostridium) difficile in an	Einstein (Sao Paulo)	Case Study	Emerging data regarding the clinical characteristics of SARS-CoV-2 infected children have shown that almost 20% of infection occurred in infants (<12 months), and the severity of illness is higher compared with older children. This article reports the clinical case of a 2-month-old infant in Brazil with SARS-CoV-2 infection (diagnosed with RT-PCR). The patient's mother had	This article reports the clinical case of a 2-month-old infant with SARS-CoV-2 infection admitted to a pediatric intensive care unit in Brazil. The patient was discharged	Oba J, Silva CA, Toma RK, Carvalho WB, Delgado AF. COVID-19 and coinfection with Clostridioides

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		infant with gastrointestinal manifestation			SARS-CoV-2 infection 10 days earlier. The infant presented with gastro-intestinal symptoms, altered coagulation, increased interleukin 10, and moderate dehydration. 2 figures display the clinical course and laboratory values for this case. The patient had a medical history of colic, poor feeding, mild diarrhea and mild rhinorrhea. The patient was admitted to the pediatric ICU. Simultaneously, the patient was diagnosed with Clostridioides difficile infection, which may have facilitated the persistence of SARS-CoV-2 in feces, for more than 27 days, after the RT-PCR turned negative. The patient was not prescribed antivirals, glycocorticoids or antimicrobials. The patient was breastfed and received complementary infant formula, and hydrated with IV fluid. After 4 days, the patient was discharged without complications. The authors conclude that the long-term impact of COVID-19 on an infant's health is still unknown. The authors recommend breastfeeding as it may be a protective factor for infants with mothers who have SARS-CoV-2.	4 days after being breastfed, provided formula, and hydrated with IV fluid. The authors recommend breastfeeding as it may be a protective factor for infants with mothers who have SARS-CoV-2.	(Clostridium) difficile in an infant with gastrointestinal manifestation. *Einstein (Sao Paulo)*. 2020;18:eRC6048. Published 2020 Dec 7. doi:10.31744/einstein_journal/2020RC6048
Cardiology, maternal mortality, pregnancy, heart disease, practice guidelines, Brazil	7-Dec-20	Position Statement on COVID-19 and Pregnancy in Women with Heart Disease Department of Women Cardiology of the Brazilian Society of Cardiology - 2020	Arquivos Brasileiros de Cardiologia	Position Statement	The Brazilian Ministry of Health, as of May 2020, had registered a high mortality in a cohort of 288 pregnant women with acute respiratory distress syndrome (ARDS) caused by COVID-19. Data included 36 (12.5%) maternal deaths, with a high prevalence of heart disease among the co-morbidities (25% of maternal deaths). The cardio-vascular system suffers hemo-dynamic overload during pregnancy that may aggravate the functional state of underlying heart diseases. In Brazil, rheumatic heart disease is the main etiology of heart disease during pregnancy, followed by congenital heart disease and cardiomyopathies. In addition, COVID-19 can cause myocardial injury, myocarditis, acute myocardial infarction, heart failure, arrhythmias, and thrombo-embolic events. Given that pregnant women with heart disease are a high-risk group for COVID-19 mortality, the authors make the following practice recommendations: 1) Early diagnosis of SARS-CoV-2 and routine SARS-CoV-2 testing is fundamental for pregnant women with heart disease. 2) Maintain regular short-interval follow-ups and ensure ongoing administration of cardiac medications. 3) Recommend self-isolation and monitoring for 14 days to patients with mild COVID-19 symptoms and stable cardiac and obstetric conditions, and hospitalization for evidence of hemo-dynamic impairment or O2 saturation ≤ 95%, regardless of symptom severity. And 4) Encourage breastfeeding for postpartum women with COVID-19 with proper contact precautions.	In this position statement by the Brazilian Society of Cardiology, the authors make practice recommendations for obstetricians caring for pregnant women with underlying cardiac disease, given the increased risk of mortality from COVID-19. This includes encouraging breastfeeding after delivery with use of contact precautions.	Marques-Santos C, Avila WS, Carvalho RCM, et al. Position Statement on COVID-19 and Pregnancy in Women with Heart Disease Department of Women Cardiology of the Brazilian Society of Cardiology - 2020. Arq Bras Cardiol. 2020 Nov;115(5):975-986. Portuguese, English. doi: 10.36660/abc.20201063.
Rooming-in, breastfeeding, mother-infant dyad, transmission, Lombardy, Italy	7-Dec-20	Evaluation of Rooming-in Practice for Neonates Born to Mothers With Severe Acute Respiratory Syndrome Coronavirus 2 Infection in Italy	Journal of the American Medical Association (JAMA) Pediatrics	Original Research	This study presents data regarding risk of SARS-CoV-2 transmission between mother and infant dyads from a prospective, multi-center study in Lombardy, Northern Italy, between March 19 and May 2, 2020. Researchers followed 62 neonates (37 females) born to 61 COVID-19 positive mothers (median age: 32, IQR 28-36 years) for approximately 20 days after birth (range: 18-22 days) to evaluate the risk of potential transmission of SARS-CoV-2 from infected mothers to neonates during rooming-in and breastfeeding. All mothers tested positive for SARS-CoV-2, and neonates were negative for SARS-CoV-2 at birth; tests were performed via PCR of nasopharyngeal swab. The neonates were further tested for SARS-CoV-2 at days 7 and 20 after birth. Mothers were encouraged to practice rooming-in and breastfeeding under standardized protocol, being mindful of droplet	This study presents data regarding risk of SARS-CoV-2 transmission between mother and infant dyads from rooming-in during a prospective, multi-center study in Lombardy, Northern Italy. Mothers were encouraged to practice rooming-in and breastfeeding under standardized protocol, and out of 62 neonates (95% of whom were breastfed), only one neonate tested positive for COVID-19. The	Ronchi A, Pietrasanta C, Zavattoni M, et al. Evaluation of Rooming-in Practice for Neonates Born to Mothers With Severe Acute Respiratory Syndrome Coronavirus 2 Infection in Italy [published online ahead of print, 2020 Dec 7]. JAMA Pediatr.

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					and contact precautions. 95% of the neonates in this sample were breastfed. Only one neonate tested positive for SARS-CoV-2, on day 7, and experienced mild dyspnea, which quickly resolved. Rooming-in and breastfeeding can have beneficial effects by promoting the mother-child relationship and facilitating breastfeeding. The present study provides evidence that transmission of SARS-CoV-2 as a result of breastfeeding and rooming in is rare.	present study provides evidence that transmission of SARS-CoV-2 as a result of breastfeeding and rooming in is rare.	2020;10.1001/jamapediatrics.2020.5086. doi:10.1001/jamapediatrics.2020.5086
Rooming-in, breastfeeding	7-Dec-20	Infants Born to Mothers With COVID-19—Making Room for Rooming-in	Journal of the American Medical Association (JAMA) Pediatrics	Editorial	The American Academy of Pediatrics (AAP) has updated its guidelines to recommend rooming-in practices unless mothers are too sick to care for their newborns. Original AAP recommendations during the COVID-19 pandemic included IPC practices that required the separation of infants from mothers with confirmed SARS-CoV-2 infection. However, recent studies have shown there is little risk of transmission between mother-infant dyads. A study out of Northern Italy showed little transmission between SARS-CoV-2 positive mothers and their infants with whom they practiced rooming-in and breastfeeding, and similar results were found in study from New York City. Overall, risk of vertical transmission of SARS-CoV-2 seems low. Unlike other viruses, the placenta does not express ACE-2 or TMPRSS2 and thus is an unlikely route of transmission. The AAP Section on Neonatal Perinatal Medicine sponsors a perinatal COVID-19 case registry of approximately 4,000 newborns tested for SARS-CoV-2, of which approximately 60% engage with rooming-in. Less than 2% of all infants test positive for SARS-CoV-2 during birth hospitalization. Mothers can follow CDC guidelines as to when they are most infectious to determine time spent with their infant or others, and should follow recommended IPC practices. The AAP recommends mothers practice rooming-in to promote the mother-child relationship and breastfeeding in light of new research that transmission of SARS-CoV-2 is low.	The American Academy of Pediatrics (AAP) has updated its guidelines to recommend rooming-in practices unless mothers are too sick to care for their newborns. Original AAP recommendations during the COVID-19 pandemic included IPC practices that required the separation of infants from mothers with confirmed SARS-CoV-2 infection. However, recent studies have shown there is little risk of transmission between mother-infant dyads.	Kaufman DA, Puopolo KM. Infants Born to Mothers With COVID-19—Making Room for Rooming-in. JAMA Pediatr. Published online December 07, 2020. doi:10.1001/jamapediatrics.2020.5100
Italy, infection, newborns, SARS-CoV-2	7-Dec-20	A neonatal cluster of novel coronavirus disease 2019: clinical management and considerations	Italian Journal of Pediatrics	Original Research	The aim of this article was to describe a cluster of neonatal COVID-19 cases and detail the experience of postnatal care and perinatal management. Debate on perinatal management and postnatal care is still ongoing, principally questioning the option of the joint management of mother and child after birth and the safety of breastfeeding. An observational case series followed 5 mother-child dyads who attended the Labor and Delivery Unit of a hospital in Italy in March 2020. Of these patients, all 5 mothers tested positive for SARS-CoV-2, as did 4 of the neonates. In one case, the neonate was separated from the mother and remained negative on two consecutive tests. Two of the four positive neonates displayed symptoms with a predominant involvement of the gastro-intestinal tract. The authors concluded that the decision of whether or not to separate a positive/suspected-positive mother from her child should be made on an individual basis. When making this decision, parent's will, clinical condition, hospital logistics, and local epidemiological situation should be taken into consideration. They state that even though these neonatal cases presented as either asymptomatic or with very minor symptoms, cases of severe presentation have been reported. They encourage clinicians to carefully monitor neonates with suspected or confirmed cases.	This article details the case of 5 mother-neonate dyads who attended a hospital in Italy of which all 5 mothers and 4 neonates tested positive for SARS-CoV-2 virus. The authors conclude that the decision to separate an infected mother from her neonate should be made on a case-by-case basis.	Olivini N, Calò Carducci FI, Santilli V, et al. A neonatal cluster of novel coronavirus disease 2019: clinical management and considerations. Ital J Pediatr. 2020 Dec 7;46(1):180. doi: 10.1186/s13052-020-00947-9.

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COVID-19; labor; pregnant; access to care; health disparities; obstetrics	3-Dec-20	Impact of Hospital Visitor Restrictions on Racial Disparities in Obstetrics	Health Equity	Perspective	In this article, the authors discuss COVID-19 infection prevention and control protocols restricting hospital visitors during labor and delivery, and the impact of these protocols on minority and underserved women, particularly on non-Hispanic black women. The authors emphasize the unique advocacy provided by visitors, discussing the challenges that restrictions place on women and their loved ones. Highlighting the disproportionate burden of disease on black women, they discuss the financial and logistical infeasibility of a single visitor providing continuous support to a pregnant woman, particularly for patients from underserved communities. They also discuss the burden of finding childcare, independent of a patient's selected visitor. Ramifications of insufficient advocacy can include increased maternal and fetal morbidity and mortality, and reduced breastfeeding support. Visitor restrictions could have significant medical and psychological impacts on the mother and newborn, including testimonial injustice and birth trauma. The authors also suggest a greater potential for harm in out-of-hospital births due to disparities in access to safe alternatives to hospital care. They make the following recommendations to mitigate the effects of visitor restrictions for black pregnant patients: the inclusion of doulas as health professionals without excluding other support persons, accommodations by hospitals for patients laboring without their support person of choice, and modifications for in-person patient assessments for women laboring alone.	The authors highlight the impact of restrictive COVID-19 visitor policies on pregnant women, particularly non-Hispanic black women. Discussing the disproportionate burden of disease in this sub-population, they report the impact of lack of advocacy on maternal and fetal health, as well as the negative impact of laboring and birthing alone. Thus, they recommend guidelines on reducing the effect of visitor restrictions on black pregnant women: the inclusion of doulas as health professionals, accommodations made for women laboring alone, and changes in the frequency of assessments for patients without support individuals.	Norton A, Wilson T, Geller G, Gross MS. Impact of Hospital Visitor Restrictions on Racial Disparities in Obstetrics. Health Equity. 2020 Dec 3;4(1):505-508. doi: 10.1089/heq.2020.0073. PMID: 33376933; PMCID: PMC7757686.
SARS-CoV-2, vertical transmission, breastfeeding, breast milk, China	2-Dec-20	Persistent SARS-CoV-2 RNA Positive in Feces but Negative in Breastmilk: A Case Report of COVID-19 in a Breastfeeding Patient	Frontiers in Medicine	Case Report	The authors report the case of a 30-year old breastfeeding woman from Wuhan, China with COVID-19 presenting with gastro-intestinal symptoms beginning January 24, 2020 (more frequent bowel movements with increased borborygmi and urgency of defecation), with fever of 37.8°C two days later. She had delivered a male newborn by C-section one week earlier on January 16. Blood work on January 30 revealed normal lymphocyte count (0.54 × 109/L), and high levels of C-reactive protein (5.87 mg/L). CT scan reported no abnormalities, and she had no respiratory symptoms. Due to history of contact with a COVID-19 patient, she underwent SARS-CoV-2 testing via oropharyngeal swab which tested positive via RT-PCR on February 7. She was admitted to the hospital on February 9 and was treated with antivirals (umifenovir) and aerosolized interferon. RT-PCR of oropharyngeal swabs resulted negative on the 4th and 5th days of interferon treatment, but fecal samples were persistently positive for SARS-CoV-2 RNA. Urgency of defecation improved with probiotics. Breast milk samples tested negative for SARS-CoV-2 RNA and serum tested positive for SARS-CoV-2 IgG antibodies, so she resumed feeding her infant breastmilk but decided to avoid direct contact with the infant and have a family member feed the infant with bottled breast milk. The infant remained healthy after 1 month follow-up, with normal temperature and no symptoms [no SARS-CoV-2 testing of the infant was reported]. Based on this case report and other supporting literature, the authors conclude that SARS-CoV-2 transmission through human milk is rare and SARS-CoV-2 IgG antibody in mother's serum may result in passive immunity during breastfeeding.	In order to facilitate the understanding of breastfeeding-related risks in COVID-19, the authors describe the case of a breastfeeding woman from Wuhan China presenting with gastro-intestinal symptoms beginning January 24, 2020 and persistent SARS-CoV-2 RNA positivity in both her oropharyngeal swabs and feces, but negativity in her breastmilk. After appearance of serum SARS-CoV-2-IgG antibodies, she began to bottle feed her infant with breastmilk without evidence of transmission to the infant [based on absence of symptoms].	Chu H, Li J, Yan J, et al. Persistent SARS-CoV-2 RNA Positive in Feces but Negative in Breastmilk: A Case Report of COVID-19 in a Breastfeeding Patient. Front Med (Lausanne). 2020;7:562700. Published 2020 Dec 2. doi:10.3389/fmed.2020.562700

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Breastfeeding; COVID-19; Donor milk; Expressed breast milk; Human milk banks; SARS-CoV-2; India	2-Dec-20	Role of human milk banks amid COVID 19: Perspective from a milk bank in India	International Breastfeeding Journal	Commentary	The COVID-19 pandemic has had a significant impact on the operation of donor human milk banks. In this commentary, the authors describe procedural modifications implemented at their milk bank in New Delhi, India, during the COVID-19 pandemic. Predominant donors in low- and middle-income countries (LMIC) are mothers of hospitalized neonates who have had an extended hospital stay. Any excess milk a mother expresses above the needs of her own infant can be voluntarily donated. This physical proximity of milk banks to donors may help continue human milk donation in LMIC during the pandemic. Protocols need to be implemented to i) ensure the micro-biological quality of the milk collected and ii) consider steps to mitigate potential consequences related to the donor's possibility of being an asymptomatic carrier of SARS-CoV-2. The authors discuss various theoretical and experienced scenarios their milk bank could expect to encounter during the pandemic and how to safely navigate them. The commentary also includes several useful references within the text, such as a schematic to assist with patient prioritization for receiving milk, a simple figure explaining the structure of milk banks in India, and a table summarizing breast milk and milk banking recommendations during the COVID-19 pandemic.	This commentary describes procedural modifications implemented at a milk bank in New Delhi, India, during the COVID-19 pandemic. The authors include several useful references within the text, such as a schematic to assist with patient prioritization for receiving milk, a simple figure explaining the structure of milk banks in India, and a table summarizing breast milk and milk banking recommendations during the COVID-19 pandemic.	Bhasin M, Nangia S, Goel S. Role of human milk banks amid COVID 19: perspective from a milk bank in India. Int Breastfeed J. 2020;15(1):104. Published 2020 Dec 2. doi:10.1186/s13006-020-00346-0
COVID-19; pregnancy; stressful psychological experience; neonatal outcomes; United States of America	2-Dec-20	Giving birth under hospital visitor restrictions: Heightened acute stress in childbirth in COVID-19 positive women	medRxiv	Preprint (not peer-reviewed)	This US study compared the delivery experiences of women who had given birth in the previous 6 months and reported having suspected or confirmed COVID-19 [self-reported as "COVID-19 positive"] during pregnancy/childbirth to women who had given birth in the previous 6 months who did not have COVID-19 [self-reported as "COVID-19 negative"] but were similar for a range of background factors. Participants were recruited beginning April 2, 2020 through announcements on the authors' hospital research study platform. 2417 women completed the anonymous survey, and 68 "COVID-19 positive" women were identified and then matched with 68 "COVID-19 negative" mothers on demographic factors, parity, prior trauma, childbirth history, and previous mental health. A higher portion of "COVID-19 positive" mothers had their infants admitted to the neonatal ICU (OR 3.72 (95% CI 1.37, 10.07), p<0.01). "COVID-19 positive" mothers were also more likely to be separated from their infant (OR: 30.31 (95%CI 1.76, 523.26), p<0.001), have no visitors during the hospital stay (OR 11.0 (95% CI 2.42, 49.80), p<0.001), or have an acute stress response during childbirth (OR 2.13 (95% CI 1.05, 4.32), p<0.05). "COVID-19 positive" mothers were also 3 times more likely to have reported no breastfeeding, although these results were not statistically significant. These figures show how childbirth can become a traumatic experience in women affected by COVID-19. The authors stress that the potential emotional toll on mothers with COVID-19 must be considered, especially when not allowed support people.	The authors conducted a retrospective survey in the US of women who had delivered in the 6 months before April 2, 2020 and found 68 mothers with suspected or confirmed COVID-19 [self-reported as "COVID-19 positive"] whom they matched to 68 self-reported "COVID-19 negative" mothers, controlling for various demographic and background factors. The "COVID-19 positive" mothers were more likely to have been separated from their infants, not allowed visitors during the hospital stay, and have an acute stress response to the childbirth experience.	Mayopaoulos GA, Ein-Dor T, Li KG et al. Giving birth under hospital visitor restrictions: Heightened acute stress in childbirth in COVID-19 positive women. medRxiv. 2020. doi: https://doi.org/10.1101/2020.11.30.20241026. Accessed 2 Dec 2020.
SARS-CoV-2; newborn; viral RNA; hematogenously	1-Dec-20	In Utero Severe Acute Respiratory Syndrome Coronavirus 2 Infection	Journal of the Pediatric Infectious Diseases Society	Case Reports	The authors present the case of a newborn male at 34 weeks' gestation (2414g) delivered by a SARS-CoV-2 positive mother in Maryland, USA. The mother had a 10-day history of cough and reported vaginal bleeding, cramps, thrombocytopenia, transaminitis, and hyperuricemia. She also had a history of gestational diabetes. During delivery, the mother wore a non-rebreather mask, and the delivery staff wore airborne-level appropriate PPE.	The authors present the case of a newborn male born to a SARS-CoV-2 positive mother in Maryland, USA. SARS-CoV-2 RNA was found in the infant's cord blood, urine, and nasopharynx (NP), with evidence	Von Kohorn I, Stein SR, Shikani BT, et al. In Utero Severe Acute Respiratory Syndrome Coronavirus 2 Infection. J Pediatric

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					Cord blood was collected immediately after birth, and the child's 1- and 5-minute APGAR scores were 7 and 9, respectively. The neonate was shown at a distance to the mother before being taken to the NICU. NICU personnel wore airborne-level PPE and had no contact with the mother after delivery. The mother elected not to breastfeed or provide breastmilk to her infant. The infant was asymptomatic but tested positive for SARS-CoV-2. The authors found SARS-CoV-2 RNA corresponding to nucleocapsid genes *N1* and *N2* in umbilical cord serum and the SARS-CoV-2 gene *N2* in DOL 2 urine. SARS-CoV-2 target *Envelope protein* (*E*) and *N2* genes were negative at 24 hours of life and then positive for only *N2* at 49 hours of life. Furthermore, the reducing cycle threshold (Ct) levels over time indicated higher SARS-CoV-2 viral loads in nasopharyngeal samples. The placental analysis showed sections with hyper mature villi and increased syncytial knots (44%), suggesting maternal vascular malperfusion. The authors concluded that the infant likely contracted SARS-CoV-2 hematogenously during or before delivery. Hematogenous spread is uncommon but possible, and newborn NP secretions may not contain detectable virus until after 48 hours.	for viral replication. The authors concluded that the infant likely contracted SARS-CoV-2 by hematogenous spread during or before delivery.	Infect Dis Soc. 2020 Dec 31;9(6):769-771. doi: 10.1093/jpids/piaa127 . PMID: 33089311; PMCID: PMC7665603.
maternal health, neonatal health, COVID-19, preterm delivery, vertical transmission, breastfeeding	1-Dec-20	Perinatal Maternal-Fetal/Neonatal Transmission of COVID-19: A Guide to Safe Maternal and Neonatal Care in the Era of COVID-19 and Physical Distancing	NeoReviews	Review	This review summarizes the clinical presentation, diagnosis, and outcomes of COVID-19 in pregnant women and neonates and discusses what is known about potential vertical transmission of SARS-CoV-2. Surveillance data of 91,412 US women (15–44 years old) infected with SARS-CoV-2 showed no differences in the frequency of cough or shortness of breath between pregnant and nonpregnant women; however, pregnant women reported headaches, muscle aches, fevers, chills, and diarrhea symptoms less frequently than nonpregnant women. Because a large percentage of asymptomatic SARS-CoV-2 infection in pregnant women, the authors recommend universal PCR testing of hospitalized pregnant women in areas where SARS-CoV-2 prevalence is high. COVID-19 may result in increased risk of preterm delivery. Due to concern of fetal growth restriction, the authors advise serial fetal growth scans and evaluation of amniotic fluid volume. Mode of delivery should be dictated by routine obstetrical indications. Treatment recommendations regarding dosing and timing are summarized. Options in cases of severe maternal hypoxemia include prone positioning, advanced ventilatory methods, and extracorporeal membrane oxygenation, especially with lower gestational ages, when delivery would pose significant neonatal morbidity. While children <10 years are generally at lower risk of COVID-19 (1% of all COVID-19 cases), infants <1 year are the most vulnerable group in the pediatric population (18% of pediatric cases), and nonspecific symptoms (poor feeding, gastro-intestinal issues) complicate diagnosis. 2-5% of infants born to mothers with COVID-19 test positive for SARS-CoV-2 infection within 24-96 hours after birth, although it is believed that most cases are due to horizontal transmission. Vertical transmission, if possible, appears to be very rare. The authors consider transmission of SARS-CoV-2 through breast milk to be unlikely; however, due to the risk of transmission posed by close contact, the authors advise mothers with COVID-19 to follow	This review summarizes the clinical presentation, diagnosis, and outcomes of COVID-19 in pregnant women and neonates, including current evidence related to potential vertical transmission of SARS-CoV-2.	Altendahl M, Afshar Y, de St Maurice A, Fajardo V, Chu A. Perinatal Maternal-Fetal/Neonatal Transmission of COVID-19: A Guide to Safe Maternal and Neonatal Care in the Era of COVID-19 and Physical Distancing. Neoreviews. 2020;21(12):e783-e794. doi:10.1542/neo.21-12-e783

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					hygiene precautions, ensure adequate ventilation, or have an uninfected caregiver feed the infant expressed breast milk.		
COVID-19; pediatric; epidemiology; symptoms	1-Dec-20	Salient Conclusive Remarks on Epidemiology and Clinical Manifestations of Pediatric COVID-19: Narrative Review	Frontiers in Pediatrics	Review	This narrative review examined the characteristic epidemiological features and clinical phenotypes of pediatric COVID-19. A literature search was conducted in PubMed, MEDLINE, and Google Scholar using the keywords: COVID-19, SARS-CoV-2, novel coronavirus, pediatric, neonates, infants, children, epidemiology, and symptoms, and articles published from December 2019-October 2020 were included. Children of all ages, including neonates, were reported to have been infected by the virus, exhibiting benign symptoms. Asymptomatic and symptomatic adult patients were the primary source of the virus to the children. Intra-uterine and breastfeeding transmission of the virus to neonates were hypothesized in some studies but ruled out since they were not confirmed. As documented in many studies, the infectivity, morbidity, and mortality rates of the disease among children are much lower than those in adults. They also seem to be lower than those observed during the SARS-CoV and MERS-CoV epidemics. The described clinical phenotypes of COVID-19 in children do not differ much from those of adults, and complications of the disease seem to be associated with comorbidities.	This narrative review examined the characteristic epidemiological features and clinical phenotypes of pediatric COVID-19. Infectivity, morbidity, and mortality rates of the disease among children are much lower than those in adults. They also seem to be lower than those observed during the SARS-CoV and MERS-CoV epidemics.	Ali AS, Al-Hakami AM, Shati AA, et al. Salient Conclusive Remarks on Epidemiology and Clinical Manifestations of Pediatric COVID-19: Narrative Review. Front Pediatr. 2020;8:584694. doi:10.3389/fped.2020.584694.
SARS-CoV-2, COVID-19, third trimester, pregnancy, early membrane rupture	1-Dec-20	COVID-19 in Third Trimester May Not Be as Scary as You Think, It Can Be Innocent: Evaluating Vertical Transmission from a COVID-19 Positive Asymptomatic Pregnant Woman with Early Membrane Rupture	The Journal of Obstetrics and Gynecology Research	Case Report	The authors present the case of a 42-year-old G2P1 pregnant woman at 35 weeks gestation who initially presented to a hospital in Turkey with family members who had symptoms consistent with SARS-CoV-2 and known contact history. SARS-CoV-2 RT-PCR testing returned positive in all family members except for the patient whose results were not available at that time and later could not be accessed due to a software error in the public health management system. The patient did not follow isolation rules and was asymptomatic. However, she presented to the hospital on May 4, 2020, at 37 weeks gestation for "leaking vaginal fluid" and tested negative for SARS-CoV-2. She subsequently delivered a healthy female infant via repeat cesarean section. RT-PCR samples taken from the clear amniotic fluid, cord blood, placenta, and breast milk returned negative for SARS-CoV-2. However, a CT scan of the patient's lungs showed diffuse peripheral and peribronchovascular ground-glass appearance in nodular form in both lungs. She developed a sudden decrease in oxygen saturation level and was treated with antibiotics, enoxaparin, favipiravir, and hydroxychloroquine. She subsequently recovered by postoperative day 3 and SARS-CoV-2 RT-PCR testing of the mother and her neonate returned negative during their hospitalization. Both mother and neonate were discharged in good condition 1 week postpartum. The authors concluded that SARS-CoV-2 infection in the mother did not cause any perinatal complications after 34 weeks of gestation, and there was no perinatal transmission, including from breast milk.	The authors of this case report evaluate the potential of perinatal transmission and safety of postpartum breastfeeding in a mother who had SARS-CoV-2 pneumonia. They found that SARS-CoV-2 infection in the mother did not cause any perinatal complications after 34 weeks of gestation, and there was no perinatal transmission, including from breast milk.	Palalioglu RM, Mahammadaliyeva A, Erbiyik HI, Muhcu M. COVID-19 in third trimester may not be as scary as you think, it can be innocent: Evaluating vertical transmission from a COVID-19 positive asymptomatic pregnant woman with early membrane rupture [published online, 2020 Dec 1]. J Obstet Gynaecol Res. 2020;doi:10.1111/jog.14584

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
COVID-19; Intimate partner violence; Pandemic; Reproductive psychiatry; women's mental health	1-Dec-20	The impact of the COVID-19 pandemic on women's mental health	Archives of Women's Mental Health	Narrative review	The authors reviewed what is known about the COVID-19 pandemic's effect on women's mental health and the implications for preventing and treating these mental health consequences. Peer-reviewed articles published up to May 30, 2020 were included [total number of articles not specified]; opinion articles without supporting objective data were excluded. The authors report that the COVID-19 pandemic has affected women's decision to get pregnant, increased fears and anxiety during pregnancy and postpartum periods, limited access to care, decreased social support (associated with increased postpartum depressive symptoms), increased risk of intimate partner violence (IPV), and increased stressful parenting responsibilities for those who already have children. The authors also report non-mental health-related issues, including a higher incidence of preterm birth (19-47% of cases, though most are iatrogenic). They mention the paucity of evidence and guidelines surrounding breastfeeding practices for SARS-CoV-2-positive mothers. The authors conclude by summarizing clinical implications and offering solutions to address them, including incorporating stress management techniques into childbirth classes, educating women on IPV resources, and offering proactive outreach to pregnant and postpartum women.	This narrative review summarizes how the COVID-19 pandemic has impacted women's mental health, highlighting the increased anxiety and stress during preconception, pregnancy, and postpartum. They outline clinical implications and suggest solutions to mitigate their impact.	Almeida, M., Shrestha, A. D., Stojanac, D., & Miller, L. J. (2020). The impact of the COVID-19 pandemic on women's mental health. Archives of women's mental health, 1–8. Advance online publication. https://doi.org/10.1007/s00737-020-01092-2
COVID-19; Delivery; Infants; Pregnancy; SARS-CoV-2; Vertical transmission	1-Dec-20	Clinical characteristics and outcomes of pregnant women with COVID-19 and the risk of vertical transmission: A systematic review [Free access to abstract only]	Archives of Gynecology and Obstetrics	Original research	This systematic review aimed to summarize the clinical characteristics and maternal–infant outcomes of pregnant women with COVID-19, and especially the possibility of vertical transmission. The authors electronically searched PubMed, Embase, Medline, medRxiv, China national knowledge infrastructure, and the Chinese medical journal full text database through April 18, 2020. The search resulted in a total of 538 articles for initial review. A total of 230 women with COVID-19 and 156 newborns from 20 studies were included in the systematic review. 66 of the women were still pregnant, 154 delivered and 10 had spontaneous or induced abortions or ectopic pregnancies. The majority of studies were case reports (N=15); there were 4 retrospective cohort studies and one case-control study. Fever and cough were the most common symptoms reported (124/210, 59.05%; and 115/210, 54.76%, respectively). 7 women received mechanical ventilation. 82.29% of the women were considered moderate cases. 80.52% (n=124) of deliveries occurred via C-section. All live newborns had 5-min Apgar scores above 8, and 24.74% (24/97) were born prematurely. Of the 128 newborns tested for SARS-CoV-2 via throat swab, 123 tested negative and 5 tested positive, yielding a positivity rate of 3.91%. The authors interpreted this positivity rate as cases of vertical transmission, although RT-PCR SARS-CoV-2 tests of vaginal secretions (n=13), breast milk (n=25), amniotic fluid (n=32), placental blood (n=35), and placental tissues (n=9) were all negative. All 5 newborns with positive results were delivered by C-section. Elevated levels of SARS-CoV-2 IgM and IgG were detected in 8 newborns whose throat swabs were negative for SARS-CoV-2. The authors concluded that newborns should be tested for serum antibodies against SARS-CoV-2 more frequently, and multiple sample sources should be included in pathogenic testing.	This systematic review of clinical characteristics and maternal-infant outcomes included 20 studies, comprising 230 women with COVID-19 and 156 newborns. In these studies, most births occurred via C-section, and nearly a quarter of infants were born prematurely. The authors report a newborn SARS-CoV-2 positivity rate of 3.91%, which they interpreted as cases of vertical transmission. SARS-CoV-2 tests of vaginal secretions, breast milk, amniotic fluid, placental blood, and placental tissues were all negative.	Chi, J., Gong, W., & Gao, Q. (2020). Clinical characteristics and outcomes of pregnant women with COVID-19 and the risk of vertical transmission: a systematic review. Archives of gynecology and obstetrics, 1–9. Advance online publication. https://doi.org/10.1007/s00404-020-05889-5

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United Kingdom, breast feeding, antibodies, SARS-CoV-2, vertical transmission	1-Dec-20	Detection of breastmilk antibodies targeting SARS-CoV-2 nucleocapsid, spike and receptor-binding-domain antigens	Emerging Microbes and Infections	Letter	This article from the UK describes the case of a 40-year-old female whose breastmilk contained strongly neutralizing SARS-CoV-2 IgA and IgG antibodies reactive against multiple SARS-CoV-2 antigens, at 2.5 months after documented SARS-CoV-2 infection. Her 16-month-old child did not display signs or symptoms of COVID-19 during this study and tested negative for serum SARS-CoV-2 antibodies. At 6.5 months following infection, the woman's breastmilk and serum still remained positive for SARS-CoV-2 neutralizing antibodies. The authors also tested whether the index case's serum and breastmilk SARS-CoV-2 antibody levels would be affected by heating. Serum was heated to 56°C for 30 minutes (higher temperatures caused immunoglobulin aggregation), whilst breastmilk was heated to 62.5°C for 30 minutes (Holder pasteurization). Holder breastmilk pasteurization did not diminish SARS-CoV-2 antibody titers but reduced their capacity to neutralize SARS-CoV-2, while serum heating had no negative effect on SARS-CoV-2 serum antibody levels and neutralizing capacity. The mother continued to breastfeed her child, who remained healthy and without signs of COVID-19. Despite the decrease in breastmilk antibody neutralizing capacity following Holder pasteurization, neutralizing activity was still present, suggesting that pasteurization of breastmilk containing SARS-CoV-2 neutralizing antibodies may be of protective benefit to breastfed children.	This case study describes a 40 year-old female in the UK who was infected with SARS-CoV-2 and developed SARS-CoV-2 IgA and IgG antibodies in her breast milk. Antibodies persisted for at least 6.5 months after infection. Holder breast milk pasteurization did not diminish SARS-CoV-2 antibody titers but reduced their capacity to neutralize SARS-CoV-2, while serum heating had no negative effect on SARS-CoV-2 antibody levels and neutralizing capacity.	Favara DM, Ceron-Gutierrez ML, Carnell GW, et al. Detection of breastmilk antibodies targeting SARS-CoV-2 nucleocapsid, spike and receptor-binding-domain antigens [published online ahead of print, 2020 Dec 1]. Emerg Microbes Infect. 2020;1-14. doi:10.1080/22221751.2020.1858699
COVID-19; pregnancy; neonatal care; breast feeding; India	30-Nov-20	Managing pregnancy in COVID-19 pandemic: A review article	Journal of Family Medicine and Primary Care	Review	The authors aimed to provide up-to-date information according to guidelines of various associations, for the management of pregnant women and newborns with suspected or confirmed SARS-CoV-2 infection in India. A comprehensive electronic search was done through PubMed, Scopus, Medline, Cochrane database, and Google Scholar from 1 December 2019-31 August 2020. Pregnancy is an immuno-compromised condition, and SARS-CoV-2 infection may have serious effects, particularly during the third trimester in women with comorbidities such as diabetes, chronic lung disease, hypertension, obesity, and advanced age, or combination of elevated D-dimer and interleukin-6 levels. Among infected mothers, the rates of iatrogenic preterm birth and C-section are high. Vertical transmission may be possible but has not been proved. SARS-CoV-2 incubation period ranges from 5 to 11 days after exposure during pregnancy. Common presentations include fever, fatigue, sore throat, runny nose, nasal congestion, myalgia, dry cough, and shortness of breath. Treatment with remdesivir has been recommended for severe hospitalized cases. According to the authors, breastfeeding of neonates is allowed with precautionary measures like hand hygiene, mask wearing, and milk pump disinfection, with strict maintenance of a 2-meter distance between the mother and neonate in the same room. More research and data need to be published to inform management protocols for COVID-19 in pregnant women and newborns.	The authors aimed to provide up-to-date information according to guidelines of various associations, for the management of pregnant women and newborns with suspected or confirmed SARS-CoV-2 infection in India. SARS-CoV-2 infection may have serious effects, particularly during the third trimester in women with comorbidities or combination of elevated D-dimer and interleukin-6 levels. According to the authors, breastfeeding of neonates can be conducted with precautionary measures.	Singh V, Trigunait P, Majumdar S, et al. Managing pregnancy in COVID-19 pandemic: A review article. J Family Med Prim Care. 2020;9(11):5468-5473. doi:10.4103/jfmpc.jfmpc_950_20.

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COVID-19; Fetus; Sonography; Infection; Echogenic bowel	30-Nov-20	Pregnant woman infected by Coronavirus Disease (COVID-19) and calcifications of the fetal bowel and gallbladder: A case report	Minerva Ginecologica	Case Report	This is a case report of a 30-year-old woman with fever and mild dyspnea from Sri Lanka who was diagnosed with COVID-19 at 35+5 weeks of gestation in Italy. Physical examination showed normal lung auscultation, and blood tests were within normal limits. She tested positive for SARS-CoV-2 PCR and was recommended to self-isolate. On April 8, 2020, at 38 weeks of gestation, her pregnancy ultrasound showed polyhydramnios, hyperechogenic gallbladder, and echogenic bowel, indicating multiple calcifications. Her cytomegalovirus, toxoplasma, parvovirus, and adenovirus tests were negative. She had a scheduled C-section on April 10 and discharged on April 14. She gave birth to a male infant born with respiratory distress syndrome requiring nasal continuous positive airway pressure (CPAP) and endotracheal surfactant administration. Infant abdominal ultrasound showed normal liver and acalculous gall bladder with a mild parietal thickening. The newborn was breastfed with surgical mask precautions. RT-PCR was negative for SARS-CoV-2 in the placenta, but blood from the umbilical cord was IgG-positive and IgM-negative, compatible with maternal infection. Gallbladder calcifications and echogenic bowel initially raised the suspicion of fetal viral infection due to vertical SARS-CoV-2 transmission; however, diagnostic tests suggested otherwise. Thus, the sonographic findings suggested a false positive case of fetal infection.	This is a case report of a 30-year-old woman from Sri Lanka who tested positive for SARS-CoV-2 at 35+5 weeks of gestation in Italy. Although fetal bowel and gallbladder calcifications initially raised the suspicion of vertical SARS-CoV-2 transmission, postpartum diagnostic tests did not support the conclusion.	Sileo FG, Tramontano AL, Leone C, et al. Pregnant woman infected by Coronavirus Disease (COVID-19) and calcifications of the fetal bowel and gallbladder: a case report. Minerva Ginecol. 2020. doi:10.23736/S0026-4784.20.04717-6
Pregnancy; breastfeeding; workplace rights; United States of America	30-Nov-20	Pregnancy and Breastfeeding During the COVID-19 Pandemic: Your Workplace Rights	Journal of Midwifery and Women's Health	Handout	This handout provides essential information on the legal rights of pregnant or breastfeeding women during the COVID-19 pandemic, according to US law. First, the authors detail how employers can protect women from COVID-19 during pregnancy, such as by providing PPE and allowing remote work. Employers must provide reasonable accommodations to keep employees safe, as long as these are not too difficult or expensive for the employer. Most employees have a legal right to receive accommodations while pregnant under the US Pregnancy Discrimination Act; more information can be found on the "Pregnant at Work" website. Employers must also provide reasonable accommodations for breastfeeding/ chestfeeding or pumping while at work. This may include additional accommodations to keep one safe during the COVID-19 pandemic. It is illegal for an employer with >15 employees to tell an employee they cannot work because of pregnancy or breastfeeding. It may be possible to take leave during pregnancy, but laws apply differently in different states and workplaces. The Pandemic Unemployment Assistance program may be available if an individual's wages have decreased due to the COVID-19 pandemic. No employee should be mistreated because they are pregnant, breastfeeding, or standing up for their rights.	This handout informs pregnant and breastfeeding women of their rights under US law, during the COVID-19 pandemic. Women may ask for reasonable accommodations to protect them from COVID-19 during pregnancy. Laws vary by state, and the authors suggest that women consult the "Pregnant at Work" website to ensure they can stand up for their rights.	Pregnancy and Breastfeeding During the COVID-19 Pandemic: Your Workplace Rights [published online ahead of print, 2020 Nov 30]. J Midwifery Womens Health. 2020;10.1111/jmwh.13199. doi:10.1111/jmwh.13199
Pregnancy, maternal outcomes, obstetrics,	29-Nov-20	Clinical course of novel COVID-19 infection in pregnant women	Journal of Maternal-Fetal and Neonatal Medicine	Original Research	To assess maternal and perinatal outcomes for pregnant women with COVID-19, the authors conducted a prospective observational study at the National Medical Research Center for Obstetrics, Gynecology and Perinatology in Russia in which all pregnant women were tested for SARS-CoV-2 on admission. 66 women tested positive by PCR [dates not provided] and gave birth to 42 neonates. The mean age of positive women was 30.3 ± 6.25 years and mean gestational age was 31.3 ± 10.4 weeks. The mean duration of the disease was 17.6 (6–34) days and mean hospital stay	In this prospective observational study, the authors assessed maternal and perinatal outcomes for 66 pregnant women with SARS-CoV-2 in Russia. 22.7% of cases were asymptomatic, while 9.1% had severe COVID-19. Decreased erythrocytes and lymphocytes and	Shmakov RG, Prikhodko A, Polushkina E, et al. Clinical course of novel COVID-19 infection in pregnant women [published online ahead of print, 2020

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					was 14.9 (4–30) days. The predominant clinical symptoms were cough (51.5%), loss of smell (34.9%), and hyperthermia (33.3%). 15 (22.7%) cases were asymptomatic, while mild, moderate, or severe COVID-19 accounted for 25 (38%), 20 (30.2%), and 6 (9.1%), respectively. A decrease in erythrocytes and lymphocytes and an increase in alanine transaminase (ALT) and C-reactive protein (CRP) were associated with severe COVID-19 ($p<0.05$). Spontaneous abortion was reported in 6.1% of cases. 8 (19%) preterm deliveries occurred. Neonates after birth were immediately isolated from their mothers until 2 negative SARS-CoV-2 results were obtained, after which breastfeeding was allowed. All neonates were tested for SARS-CoV-2 immediately after birth and all were negative without clinical symptoms.	increased alanine transaminase and C-reactive protein were associated with severe disease. None of the neonates tested positive for SARS-CoV-2.	Nov 29]. J Matern Fetal Neonatal Med. 2020;1-7. doi:10.1080/14767058.2020.1850683
Infant, COVID-19, SARS-CoV-2, USA	27-Nov-20	A newborn with coronavirus (COVID-19) disease: A brief report	Journal of Neonatal-Perinatal Medicine	Case Report	A 35-year old woman at 39 weeks' gestation was admitted for elective repeat C-section in the US. On admission, all prenatal laboratory tests and vitals were normal. A full-term female infant was delivered without complication, and was roomed with the mother in a single-patient room and exclusively breast-fed. After 4 days, infant was noted to have circumoral cyanosis during feeding. On the same day, mother's temperature was elevated but she did not have any respiratory symptoms. Father reported symptoms of sore throat and cough. Mother, father, and infant were confirmed SARS-CoV-2 positive and influenza negative via nasopharyngeal swab. Both mother and infant were transferred to individual negative pressure rooms. The infant was transferred to the neonatal ICU due to episodes of desaturations with feedings and while sucking on a pacifier. The infant consistently had circumoral cyanosis with desaturation episodes - worse with feedings. On day 7, the infant had significant nasal congestion and secretion. Her desaturation episodes gradually decreased and the last desaturation event was noted on day of life 8. Nasopharyngeal swabs for SARS-CoV-2 were repeated on day 12 and remained positive. The infant was discharged home to parents on hospital day 14 of life. The authors assert that neonatal COVID-19 occurred due to postpartum caregiver contact.	This case report describes a 4-day old infant born to an asymptomatic mother with SARS-CoV-2 infection in the US. The infant subsequently developed infection with SARS-CoV-2, likely from contact with parents during the postnatal period.	Rong Q, Abubakar K. A newborn with coronavirus (COVID-19) disease: A brief report. Journal of Neonatal-Perinatal Medicine. 2020;13(4):593-595. doi:10.3233/npm-200489
Pregnancy, home birth, hospital exposure, fear, postpartum care, Iran	27-Nov-20	A Case Report of Vaginal Delivery at Home due to Fear of Covid-19	Iranian Journal of Psychiatry	Case Report	This is a case of a 31-year-old pregnant woman living in Dezful, Iran at 39 weeks and 4 days gestational age who refused labor and delivery in a hospital out of fear of exposure to COVID-19. The woman called her midwife after delivering the infant vaginally at home. Both the mother and infant were in stable condition. Because of the mother's blood group (A-), the midwife asked the mother to transfer the fetal placenta to the midwifery clinic (the mother declined to be transferred to the hospital). Her husband brought the placenta and cord blood sampling was performed. The placenta was also checked for completeness and the midwife ensured that the placenta was completely delivered. The fetal blood sample was A + necessitating administration of RhoGAM (Rh immunoglobin) for the mother. The mother was contacted, and she and her husband were informed about the risks of not using RhoGAM, risks of postpartum hemorrhage, and the importance of post-partum and infant care. Counseling on protection against COVID-19 transmission was provided by midwives over the phone, and the patient's fear of illness was reduced. The infant and mother were examined, RhoGAM injection was provided, and neonatal vaccinations were	This is a case of a pregnant woman who delivered her infant at home out of fear of the hospital due to COVID-19 exposure. She required administration of Rh immunoglobin after delivery, and telephone counseling by midwives helped alleviate fear and facilitate postpartum care.	Nosratabadi M, Sarabi N, Masoudiyekta L. A Case Report of Vaginal Delivery at Home due to Fear of Covid-19. Iran J Psychiatry. 2020 Oct;15(4):366-369. doi: 10.18502/ijps.v15i4.4306.

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					administered. After follow-up, the mother was discharged from the clinic with normal labs, bleeding, and vitals, and was able to initiate breastfeeding. This case highlights the role of counseling in alleviating concerns related to COVID-19 exposure in healthcare settings among pregnant women.		
COVID-19, breastfeeding, pregnancy, hospital practices, skin-to-skin, lactation support, USA	27-Nov-20	Implementation of Hospital Practices Supportive of Breastfeeding in the Context of COVID-19 - United States, July 15-August 20, 2020	Morbidity and Mortality Weekly Report (MMWR)	Report	The authors sought to assess breastfeeding implementation across hospitals in the United States and its territories during the COVID-19 pandemic. The CDC conducted a COVID-19 survey (from July 15–August 20, 2020) among 1,344 hospitals that completed the 2018 Maternity Practices in Infant Nutrition and Care (mPINC) survey to assess current practices and breastfeeding support while in the hospital. Hospitals were asked about their actual or planned approach to managing maternity patients with suspected or confirmed COVID-19. Overall, the results showed that 178 (13.3%) hospitals encouraged skin-to-skin contact between mothers with suspected or confirmed COVID-19 and their newborns immediately after birth, and 883 (66.1%) decided this on a case-by-case basis. Among mothers with suspected or confirmed COVID-19, 14.0% of hospitals discouraged and 6.5% prohibited skin-to-skin care; 37.8% discouraged and 5.3% prohibited rooming-in; 20.1% discouraged direct breastfeeding but allowed it if the mother chose, and 12.7% did not support direct breastfeeding but encouraged feeding of expressed breast milk. In response to the COVID-19 pandemic, 17.9% of hospitals reported reduced in-person lactation support, and 72.9% reported discharging mothers and their newborns <48 hours after birth. After discharge, 802 (59.7%) and 655 (48.7%) hospitals offered in-person and virtual breastfeeding consultations, respectively. The authors suggest that additional post-discharge breastfeeding support and newborn follow-up might be needed during the COVID-19 pandemic.	This report's findings showed that because of the COVID-19 pandemic, 17.9% of hospitals reported that in-person lactation support had decreased, and 72.9% reported discharging mothers and their infants <48 hours after birth. The authors suggest that additional post-discharge breastfeeding support and newborn follow-up might be needed during the COVID-19 pandemic.	Perrine CG, Chiang KV, Anstey EH, et al. Implementation of Hospital Practices Supportive of Breastfeeding in the Context of COVID-19 - United States, July 15-August 20, 2020. MMWR Morb Mortal Wkly Rep. 2020;69(47):1767-1770. Published 2020 Nov 27. doi:10.15585/mmwr.mm6947a3
SARS-CoV-2; COVID-19; coronavirus; horizontal transmission; neonate; India	27-Nov-20	COVID-19 Infection in Newborn Infants	The Indian Journal of Pediatrics	Scientific Letter	Clinicians at Seth GS Medical College and King Edward Memorial Hospital in Mumbai, India describe 3 cases of the clinical course of COVID-19 in neonates whose mothers exhibited COVID symptoms. Neonate positivity was determined via RT-PCR on nasopharyngeal swab. The 1st case discussed is a term male who tested positive for SARS-CoV-2 on day 7 of life. He had dry cough and episodes of vomiting and exhibited elevated lactate dehydrogenase (1496 U/L) and creatine kinase (336.8 U/L). He also developed IgM antibodies on day 12 but remained negative for IgG. He improved clinically but repeat swabs on days 12, 16, and 22 were all positive. The 2nd case was also a term male who tested positive on day 9 of life. He remained asymptomatic but repeat swabs on days 12, 16, and 23 were all positive. The 3rd case was a term female who tested positive at 35 hours of life. She had dry cough and elevated lactate dehydrogenase (1569 U/L) and creatine kinase (551 U/L). She improved clinically but repeat swabs on day 6 and 19 were positive. Authors speculate that because neonates roomed in with their mothers and were exclusively breastfed that horizontal transmission is likely, and that delayed symptom onset and varied presentation highlight the need for close monitoring.	Authors affiliated with a hospital in Mumbai, India describe the clinical course for 3 cases of neonatal COVID-19. Because all 3 neonates roomed in with their mothers and were exclusively breastfed, the authors suspect horizontal transmission. They also conclude that because presentation is highly varied, close monitoring of infants is critical.	Mascarenhas D, Goyal M, Mundhra N, Haribalakrishna A, Nanavati R, Nataraj G. COVID-19 infection in newborn infants. The Indian Journal of Pediatrics. 2020. doi: 10.1007/s12098-020-03578-4.

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Complementary feeding, food security, breast-feeding, Indonesia	27-Nov-20	Complementary Feeding Practices During COVID-19 Outbreak in Daerah Istimewa Yogyakarta, Indonesia, and Its Related Factor [Free Access to Abstract Only]	Asia Pacific Journal of Public Health	Original Research	This study explored the complementary feeding (CF) practices of women and their infants aged 6 to 24 months during the COVID-19 pandemic (April-May 2020) in the Daerah Istimewa Yogyakarta (DIY) province of Indonesia. Authors utilized a cross-sectional, observational study by engaging 192 mothers, ages 21 to 40 years, in an online survey for 4 weeks to determine factors that were associated with appropriate or inappropriate CF practices. Most of the participants (95%) continued to breastfeed their infants. Researchers found that a child's young age (P = 0.019), secure household food security (P = 0.006), and mother's adequate CF knowledge (P = 0.002) are significantly related to appropriate CF practices. Socio-economic status was not statistically related to CF practices, but was related to measures of food security. Previous outbreaks, such as the Ebola crisis, adversely impacted CF practices, and the economic disruptions of the COVID-19 pandemic could affect appropriate CF practices. Governments should intervene to ensure food security for vulnerable households.	This study explored the complementary feeding (CF) practices of women and their infants aged 6 -24 months during the COVID-19 pandemic (April-May 2020) in the Daerah Istimewa Yogyakarta province of Indonesia. Researchers found that 95% of mothers continued breastfeeding their infants, and a child's young age, secure household food security, and mother's adequate CF knowledge were significantly related to appropriate CF practices.	Widyaningrum R, Safitri RA, Ramadhani K, Suryani D, Syarief F. Complementary Feeding Practices During COVID-19 Outbreak in Daerah Istimewa Yogyakarta, Indonesia, and Its Related Factor [published online ahead of print, 2020 Nov 27]. Asia Pac J Public Health. 2020;1010539520976518. doi:10.1177/1010539520976518
multiple sclerosis, COVID-19, SARS-CoV-2, interferon beta-1a, postpartum, relapse mimic, ACE2	26-Nov-20	SARS-CoV-2, multiple sclerosis, and focal deficit in a postpartum woman: A case report	Experimental and Therapeutic Medicine	Case report	This is a case report of a 40-year-old female with recurrent remissive multiple sclerosis (MS) and COVID-19 5 weeks postpartum in April 2020 in Romania. The patient was previously treated with subcutaneous interferon beta 1a in 2012-2014 and 2015-2018. Physical examination upon presentation in April 2020 showed paresthesia, motor deficit, mild right limb ataxia, and brisk reflexes. Her laboratory workup showed increased hemoglobin (16.5 g/dL), hematocrit (50.1%), and C-reactive protein with D-dimers and leukocytes within a normal range. Chest X-rays showed basal infiltration. She tested positive for SARS-CoV-2 via PCR and received antivirals and methylprednisolone. The infant was kept separate from his mother and was not breastfed due to the mother's use of antiviral medication. The infant was not tested for SARS-CoV-2, but remained asymptomatic and in good health. She and her infant were discharged in 2 weeks after she tested negative for SARS-CoV-2 and the focal neurological deficit had subsided. Given the absence of an active lesion, her neurological deficit may have been a pseudo-relapse due to postpartum hemoconcentration and post-thrombotic state and impaired microcirculation by SARS CoV 2 action on ACE2 receptors. One month later, specific IgG and IgM antibodies were negative, indicating the patient did not develop immunity to COVID-19. The absence of antibodies after SARS-CoV-2 infection raises questions over acquired immunity, risk of re-infection, and the subsequent evolution of MS. Therefore, the authors state that guidelines for the treatment of women with MS and COVID-19 during the postpartum period are needed.	This is a case report on a 40-year-old Caucasian woman with recurrent remissive multiple sclerosis (MS) and COVID-19 5 weeks postpartum in April 2020. The authors state that guidelines for the treatment of women with MS and COVID-19 during the postpartum period are needed.	Florea AA, Sirbu CA, Ghinescu MC, et al. SARS-CoV-2, multiple sclerosis, and focal deficit in a postpartum woman: A case report. Exp Ther Med. 2021;21(1):92. doi:10.3892/etm.2020.9524
Breastfeeding, initiation, complementary feeding, formula,	26-Nov-20	Infant feeding initiation practices in the context of	Early Human Development	Original Article	The authors investigated psycho-emotional distress, tested by the Edinburg Postnatal Depression Scale (EPDS) in early postpartum and breastfeeding initiation practices among quarantined women who gave birth in a COVID-19 'hotspot' in Northeastern Italy. Pregnant women > 18 years old (n= 163) who delivered a singleton, healthy neonate at term at Policlinico Abano Terme,	Findings from this study showed that women giving birth during the COVID-19 lockdown in the 'hotspot' area of Northeastern Italy, between February 22 and	Vincenzo Z, Tortora D, Guerrini P, et al. Infant feeding initiation practices in the context of COVID 19

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depression scores, EPDS, COVID-19, lockdown, Italy		COVID-19 lockdown			Italy, between February 22 and May 18, 2020, were compared to a control-matched group (n=154) who delivered at the hospital during the same period in 2019. Both groups completed the EPDS questionnaire before discharge on postpartum day 2, and the association between EPDS scores and breastfeeding practices were analyzed. The authors used a cutoff point of EPDS score > 12 to indicate a high probability of depression. The results showed that the study group showed significantly lower exclusive breastfeeding initiation rates than the control group (70.39% vs. 86.39%, p = 0.003), as a consequence of the significantly higher prevalence of complementary feeding practices in the study group (12.24% vs. 26.32%, p = 0.002). Conversely, the study group showed significantly higher EPDS scores, higher anhedonia and depression subscale scores, and a higher prevalence of EPDS scores > 12, indicating a higher probability of postpartum depression. Of note, women practicing exclusive breastfeeding showed significantly lower EPDS scores, indicating lower probability of depression, than those practicing complementary (p = 0.003) and formula feedings (p = 0.001).	May 18, 2020, had significantly lower exclusive breastfeeding rates and significantly higher EPDS scores > 12, indicating a higher probability of depression, than the control-matched group who gave birth the previous year.	lockdown. Early Human Development. 2020 Nov 26. https://doi.org/10.1016/j.earlhumdev.2020.105286
COVID-19; newborn; relationship-centered communication ; telehealth; telemedicine	24-Nov-20	Relationship-Centered Care in a Novel Dual-Visit Model COVID Nursery Follow-Up Clinic	Journal of Patient Experience	Case Study	This article describes a COVID Nursery Follow-Up Clinic in New York City, USA for infants born to SARS-CoV-2 positive mothers. Prior to hospital discharge, SARS-CoV-2 positive mothers were screened for food insecurity, mental health concerns, domestic violence, and housing insecurity. The authors describe the clinic's dual-visit model for follow-up within the first week of life, consisting of a telehealth visit followed the next day by an in-person visit with the same provider for continuity of care. Telehealth enabled the family to see the provider without PPE to establish rapport and follow-up on concerns identified through screening. It also enabled the provider to assess mask usage around the infant in real time, observe breastfeeding, and visually assess the infant and home environment prior to the in-person visit with an alternate, asymptomatic caregiver. The show rate for video and in-person visits was 100%, and 94% for subsequent in-person follow-up visits. From March 23 to July 2, 2020, 117 infants had an initial evaluation at the COVID Nursery Follow-Up clinic. Nearly all (97%, 114/117) had an initial negative SARS-CoV-2 PCR result; 2 infants had indeterminate results; 1 tested positive initially but tested negative 5 hours later and again prior to discharge. All infants who underwent repeat testing after initial follow up (n=64) tested negative for SARS-CoV-2. 25 mothers were referred for telehealth breastfeeding support with a lactation consultant. The authors conclude this dual-visit model can be adapted to other specialties where in-person visit time may need to be minimized to help with social distancing or where the primary caregiver is unable to accompany the patient.	This article describes a COVID Nursery Follow-Up Clinic established in New York City, USA March 23, 2020 to provide timely and relationship-centered care in the first week of life for infants born to SARS-CoV-2 positive mothers. This clinic utilized a dual-visit model consisting of an initial telehealth visit followed by an in-person evaluation of the infant the following day with an asymptomatic caregiver. The authors conclude this dual-visit model can be adapted to other specialties where in-person visit time must be minimized or the primary caregiver is unable to accompany the patient.	Saslaw M, Glassman ME, Keown MK, Orange J, Stockwell MS. Relationship-Centered Care in a Novel Dual-Visit Model COVID Nursery Follow-Up Clinic. J Patient Exp. 2020;7(6):998-1001. doi:10.1177/2374373520972882
COVID-19, newborn, isolation, feeding intolerance, CT	24-Nov-20	Value of chest imaging in the newborn with suspected COVID-19	European Review for Medical and Pharmacological Sciences	Case Study	This paper presents a newborn (G2P2, gestational age of 39+6 weeks, birth weight of 3.2 kg, with normal fetal amniotic fluid) with suspected COVID-19 in China admitted on February 10, 2020, at the birth age of 16 hours and 34 minutes. The Apgar scores at 1 and 5 min were 9 and 10 points, respectively. The mother (age not reported) of the newborn was exposed to a patient with COVID-19 5 days before delivery. The newborn was given the opportunity to breastfeed approximately 3 hours after birth. The newborn	This paper presents a newborn (gestational age 39+6 weeks) with suspected COVID-19 in China. The authors conclude that for newborns with typical pulmonary lesions, a CT should be done and strict quarantine measures be	Li HY, Zhang CM, Lv YY, et al. Value of chest imaging in the newborn with suspected COVID-19. Eur Rev Med Pharmacol Sci.

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					had nausea and vomiting with feeding intolerance (poor suckling); full enteral feeding was given on the 6th day after birth. The 2 2019-nCoV nucleic acid tests of the newborn were negative on the 5th and 7th days after birth. The patient was provided with anti-infection therapy using erythromycin, ambroxol for resolving phlegm, and symptomatic therapy with vitamin C for myocardial nutrition. There was a gradual recovery in breastfeeding capacity and the infant had good milk intake (60-70 ml of milk per feeing) at discharge 10 days after admission. On the 1st and 8th days after birth, typical pulmonary lesions were detected in the newborn by chest CT. The authors recommend that chest imaging examination should be actively performed in the newborn even with a negative 2019-nCoV nucleic acid test, in cases where a pregnant woman is exposed to a patient with COVID-19 or is confirmed with 2019-nCoV infection. The authors conclude that for newborns with typical pulmonary lesions, strict quarantine measures be recommended if the possibility of COVID-19 cannot be excluded.	recommended if the possibility of COVID-19 cannot be excluded.	2020;24(22):11971-11976. doi:10.26355/eurrev_202011_23859
COVID-19; neonate; pregnancy	24-Nov-20	SARS-CoV-2 infection and neonates: A review of evidence and unresolved questions	Pediatric Allergy and Immunology	Review	The authors summarize existing evidence and key unresolved questions about SARS-CoV-2 infection in neonates. Few cases of presumed in utero vertical transmission of the virus from infected mothers to fetuses have been reported, but stronger evidence is needed, from larger datasets with multiple bio-specimens rigorously analyzed. Rooming-in practice and breastfeeding are beneficial for mother-infant dyads, and, to date, SARS-CoV-2 transmission through breastmilk has not been demonstrated. Breastmilk IgA contributes to the protection of neonates against gastro-intestinal and upper respiratory tract infections. Whether this holds also for SARS-CoV-2 infection has not been established. SARS-CoV-2 infection in neonates, acquired before or after birth, can be symptomatic. Not much is known about neonatal immune response and the subsequent clinical characteristics of COVID-19 in early life. Further investigations are imperative to understand the possibility of intra-uterine fetal infection and vertical transmission through breastmilk, as well as immunologic mechanisms underlying the lower pathogenicity of SARS-CoV-2 in early life.	The authors summarize existing evidence and key unresolved questions about SARS-CoV-2 infection in neonates. Further investigations are imperative to understand the possibility of intra-uterine fetal infection and vertical transmission through breastmilk, as well as immunologic mechanisms underlying the lower pathogenicity of SARS-CoV-2 in early life.	Pietrasanta C, Ronchi A, Schena F. SARS-CoV-2 infection and neonates: a review of evidence and unresolved questions. Pediatr Allergy Immunol. 2020;31 Suppl 26(Suppl 26):79-81. doi:10.1111/pai.13349.
pregnant women; coronavirus; infectious disease transmission; vertical transmission; obstetric management; SARS-CoV-2; systematic review	24-Nov-20	Maternal Coronavirus Infections and Neonates Born to Mothers with SARS-CoV-2: A systematic review	Healthcare	Review	These authors conducted a systematic review of available literature on 31 October 2020 to understand the impact of COVID-19 on perinatal maternal and fetal outcomes. 70 studies were included, comprising 1457 pregnant women diagnosed with COVID-19 and 1042 newborns of diagnosed mothers. Of the infected women, 7.9% (n=116) were asymptomatic. Fever (n=695, 47.7% of symptomatic women), cough (n=647, 44.4%), and nausea (n=148, 10.2%) were the most common symptoms. Most of the women were in the third trimester (n=1339, 91.9%). 3.4% (n=36) of infants were delivered by emergency C-sections, 34.9% (n=364) were born vaginally, and 57.3% (n=597) were born by non-emergent C-sections [the remainder of deliveries are not accounted for in this article]. The most common comorbidities were obesity, hypertensive disorders, diabetes, asthma, and pre-eclampsia; other pregnancy complications included gestational diabetes and gestational hypertension. Of the women diagnosed with COVID-19, 4.6% (n=68) were admitted to ICU departments. Cases of premature births,	A systematic review of 70 studies, including 1457 SARS-CoV-2 positive pregnant women and 1042 newborns, was undertaken to investigate the signs and symptoms, type of delivery, comorbidities, clinical outcomes for mother and neonate, and the possibility of vertical transmission associated with COVID-19. Only 39 cases of newborns infected with SARS-CoV-2 were found [there is a discrepancy between data in the results section and in the authors' conclusion]. SARS-CoV-2 RNA was	Amaral WND, Moraes CL, Rodrigues APDS, Noll M, Arruda JT, Mendonça CR. Maternal Coronavirus Infections and Neonates Born to Mothers with SARS-CoV-2: A Systematic Review. Healthcare (Basel). 2020;8(4):E511. Published 2020 Nov 24.

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					maternal deaths, premature rupture of membranes, intra-uterine fetal death, neonatal death, miscarriage, decreased fetal movements, and severe neonatal asphyxia were found in cases of SARS-CoV-2 infected mothers. 3.7 % (n=39) of the newborns were positive for SARS-CoV-2, although testing times varied [there is a discrepancy between this number and the number of neonates who tested positive for SARS-CoV-2 stated in the authors' conclusion]. SARS-CoV-2 RNA was found in 13 placenta samples and 6 breast milk samples [authors did not note the total numbers tested]. Negative SARS-CoV-2 tests on newborns also varied in timing from at birth to 14 days post-delivery. The question of vertical transmission for SARS-CoV-2 remains unanswered. Further studies are needed, including longitudinal studies, to establish the full implications of COVID-19 on pregnancy and early development.	found in 13 placenta samples and 6 breast milk samples.	doi:10.3390/healthcare8040511
Anesthesia, obstetrics, infection control, isolation, China	24-Nov-20	Pregnancy and COVID-19: what anesthesiologists should know?	Minerva Anestesiologica	Original Article	In this article, the authors make suggestions regarding the management of obstetric anesthesia for pregnant women with COVID-19 in China based on current evidence from COVID-19 case care and previous experiences from other infectious diseases. They include reviews of the following topics: pre-anesthesia evaluation, infection control measures, anesthetic techniques, physiologic considerations, and newborn and postnatal management. They propose that the key principles of obstetric anesthesia should include careful pre-anesthesia screening and evaluation, multi-disciplinary based teamwork, detailed plans, strict peripartum infection control, and psychological support for both the patient and the anesthesiologist. In addition, the authors of this article recommend that neonates of COVID-19 mothers should be separated and avoid breastfeeding.	The authors review considerations regarding obstetric anesthesia for pregnant women with COVID-19 in China. They recommend pre-anesthesia screening and evaluation, multi-disciplinary based teamwork, detailed plans, strict peripartum infection control, separation of mother/child and avoidance of breastfeeding, and psychological support for both the patient and the anesthesiologist.	Wang Y, Yang M, Wang L, Dong H, Lu Z. Pregnancy and COVID-19: what anesthesiologists should know? Minerva Anestesiol. 2020 Nov 24. doi: 10.23736/S0375-9393.20.14647-9.
SARS-CoV-2; neonate; vertical transmission, RT-PCR; India	22-Nov-20	Possible Early Vertical Transmission of COVID-19 from an Infected Pregnant Female to her Neonate: A Case Report	Journal of Tropical Pediatrics	Case Report	The authors present a case report of potential vertical transmission from a 24-year-old mother from New Delhi, India to her neonate born on 8 July 2020 at 37+2 weeks. The family lived in a COVID-19 hotspot area of New Delhi, and on 6 June, the husband developed fever, cough, and breathlessness and later tested positive for SARS-CoV-2. The mother developed a low-grade fever on 9 June, and her RT-PCR was also positive for SARS-CoV-2. A negative RT-PCR from the mother was obtained 2 days before delivery. The infant was born via vaginal delivery with the mother wearing a surgical mask throughout delivery. Skin-to-skin contact was not allowed, the infant was transferred to the neonatal ICU 10 min after delivery and fed infant formula, and tested positive for SARS-CoV-2 via pharyngeal swab 16-hours post-delivery. Serum testing of the IgG antibody was also positive for SARS-CoV-2; however, the IgM antibody test was negative. To rule out horizontal transmission, all healthcare workers who came into contact with the neonate were tested, and their results were negative. The authors propose this may be a case of intra-uterine transmission of SARS-CoV-2 from mother to fetus; however, the amniotic fluid was not tested, and transmission may have led to a false-positive due to contamination by the amniotic fluid. The authors stress the need to collect more data in cases of suspected vertical transmission and to create guidelines for safe deliveries during the COVID-19 pandemic.	This case report describes a 37+2-week vaginal delivery by a 24-year-old mother who had been positive for SARS-CoV-2 in the weeks before delivery. At 16-hours post-delivery, the neonate tested positive for SARS-CoV-2 via RT-PCR, and serum testing was positive for the IgG antibody and negative for the IgM antibody. The authors propose that this may represent a case of vertical transmission of SARS-CoV-2. Further data is necessary to confirm the possibility of vertical transmission.	Bandyopadhyay T, Sharma A, Kumari P, et al. Possible Early Vertical Transmission of COVID-19 from an Infected Pregnant Female to Her Neonate: A Case Report [published online, 2020 Nov 22]. J Trop Pediatr. 2020;fmaa094. doi:10.1093/tropej/fmaa094

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COVID-19; pregnancy; maternal-fetal transmission; vertical transmission	21-Nov-20	Pregnancy and Childbirth in the COVID-19 Era-The Course of Disease and Maternal-Fetal Transmission	Journal of Clinical Medicine	Review	In this review, the authors synthesize available evidence on the course of COVID-19 in pregnant women and the risk of maternal-fetal transmission. The most important factors determining the course of COVID-19 in pregnant women are maternal age and the presence of comorbidities, such as gestational hypertension, gestational diabetes, and cholestasis. The course of COVID-19 was worse in pregnant women, who are more often admitted to the ICU or require mechanical ventilation than nonpregnant women with COVID-19. Some symptoms, such as dyspnea and cough, were similar to those observed in nonpregnant women, but fever, headache, muscle aches, chills, and diarrhea were less frequent. A study revealed that premature delivery and cesarean section were more common in pregnant women diagnosed with COVID-19. In addition, recent studies confirm the possibility of intrauterine maternal-fetal transmission evidenced by positive SARS-CoV-2 genetic tests and IgM in newborns just after delivery. The probability of transmission through mother's milk is inconclusive at this time. Currently considered optimal diagnostic tools (X-ray and CT) and treatment (antibiotic therapy and immunotherapy) cannot be applied to pregnant women due to risks to the fetus and breastfeeding. This may delay diagnostic and therapeutic procedures for pregnant women, especially those with more severe symptoms. Considering these findings, SARS-CoV-2 poses a considerable threat to the health and life of both mother and fetus.	In this review, the authors synthesize available evidence on the course of COVID-19 in pregnant women and the risk of maternal-fetal transmission. Maternal age and the presence of comorbidities may exacerbate the impact of SARS-CoV-2 infection in pregnant women. Recent studies confirm the possibility of intrauterine maternal-fetal transmission by SARS-CoV-2 positive genetic tests and IgM in newborns just after delivery.	Mazur-Bialy AI, Kołomańska-Bogucka D, Tim S. Pregnancy and Childbirth in the COVID-19 Era-The Course of Disease and Maternal-Fetal Transmission. J Clin Med. 2020;9(11):3749. doi:10.3390/jcm9113749.
COVID-19; pregnancy; transmission; neonates; breastmilk	20-Nov-20	Congenital, Intrapartum and Postnatal Maternal-Fetal-Neonatal SARS-CoV-2 Infections: A Narrative Review	Nutrients	Review	This narrative review was conducted to guide clinicians on the management of pregnant women with respect to congenital, intrapartum, and postnatal maternal-fetal-neonatal SARS-CoV-2 infections and breastfeeding during the COVID-19 pandemic. Searches were conducted in Web of Science, PubMed, Scopus, Dialnet, CUIDEN, Scielo, and Virtual Health Library to identify observational studies, case series, case reports, and randomized controlled trials assessing the transmission of SARS-CoV-2 from mother to offspring and/or through breastfeeding during the COVID-19 pandemic. A total of 49 studies were included, comprising 329 pregnant women and 331 neonates (2 pregnant women delivered twins). The articles originated in China (n=26), USA (n=7), Italy (n=3), Iran (n=2), Switzerland (n=1), Spain (n=1), Turkey (n=1), Australia (n=1), India (n=1), Germany (n=1), France (n=1), Canada (n=1), Honduras (n=1), Brazil (n=1), and Peru (n=1). Samples from amniotic fluid, umbilical cord blood, placenta, cervical secretions, and breast milk were collected and analyzed. A total of 15 placental swabs gave positive results for SARS-CoV-2 RNA on the fetal side of the placenta. SARS-CoV-2 RNA was found in 7 breast milk samples, 1 umbilical cord sample, and 1 amniotic fluid sample. There is therefore some evidence to support the potential of congenital, intrapartum, and postnatal maternal-fetal-neonatal SARS-CoV-2 transmission during the pandemic. Mothers should follow recommendations, including wearing a facemask and hand washing before and after breastfeeding.	This narrative review was conducted to guide clinicians on the management of pregnant women with respect to congenital, intrapartum, and postnatal maternal-fetal-neonatal SARS-CoV-2 infections and breastfeeding during the COVID-19 pandemic. SARS-CoV-2 RNA was detected in 15 placental swabs, 7 breast milk samples, 1 umbilical cord sample, and 1 amniotic fluid sample, based on multiple articles. There is therefore some evidence to support the potential of congenital, intrapartum, and postnatal maternal-fetal-neonatal SARS-CoV-2 transmission, enforcing the need for mothers to wear facemasks and wash hands before and after breastfeeding.	Caparros-Gonzalez RA, Pérez-Morente MA, Hueso-Montoro C, et al. Congenital, Intrapartum and Postnatal Maternal-Fetal-Neonatal SARS-CoV-2 Infections: A Narrative Review. Nutrients. 2020;12(11):3570. doi:10.3390/nu12113570.
human milk; breast milk; breastfeeding; coronavirus;	20-Nov-20	Breastfeeding, Human Milk and COVID-19- What	Frontiers in Pediatrics	Opinion	Evidence currently suggests there is limited risk that SARS-CoV-2 can be transmitted via human milk. Consequently, the WHO, UNICEF, CDC, and Royal College of Obstetricians and Gynaecologists recommended that mothers continue to breastfeed. Concern for spreading the virus via	The authors of this article state there have been no confirmed reports of postnatal transmission of SARS-CoV-2 via human milk, and	Mitoulas LR, Schärer-Hernández NG, Liabat S. Breastfeeding, Human Milk and

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COVID-19; SARS-CoV-2; transmission; evidence		does the evidence say?			horizontal transmission routes via direct, indirect, or close contact with infected people through saliva, respiratory droplets, talking, coughing, or sneezing remains for the breastfeeding infant. The authors recommend strict contact precautions while breastfeeding. There have been no confirmed cases of postnatal transmission of SARS-CoV-2 from human milk, despite some cases of transient identification of viral RNA in human milk. Due to the transient nature of the RNA in breastmilk, researchers have not ruled out horizontal transmission of the virus into human milk. If mothers or clinicians are concerned about breastfeeding safety, it has been shown that Holder Pasteurization, which is used by milk banks, does inactivate replication-competent SARS-CoV-2 virus added in laboratory settings. Benefits of breastfeeding also include strong SARS-CoV-2 neutralizing capabilities to provide an active form of protection for the infant. Finally, maternal mental health concerns have increased during the COVID-19 lockdowns for pregnant and postpartum women, so it is critical to provide needed support to ensure their infants receive breastfeeding advantages.	breastfeeding appears to provide antibodies that neutralize SARS-CoV-2 and protect against the virus. Data show that keeping mothers and infants together and encouraging breastfeeding should be routine care if mothers follow strict contact precautions to prevent horizontal transmission of the virus.	COVID-19-What Does the Evidence Say?. Front Pediatr. 2020;8:613339. Published 2020 Nov 20. doi:10.3389/fped.2020.613339
Letter, vertical transmission, U.S., antibodies	20-Nov-20	Intrauterine vertical transmissibility of severe acute respiratory syndrome coronavirus 2: did we just miss the proof?	American Journal of Obstetrics & Gynecology MFM	Letter to the Editor	In this letter to the editor, the authors provide their perspective on the possibility of vertical transmission of SARS-CoV-2, which is not supported by current evidence, in the absence of positive RT-PCR results for SARS-CoV-2 in amniotic fluid, placenta, cord blood, or breast milk. The authors discuss a recent study, which reported positive SARS-CoV-2 RT-PCR results in 3 of 11 placental and membrane swabs collected from pregnant women with COVID-19 in the U.S. Previously, another article reported positive RT-PCR results for SARS-CoV-2 in intra-operatively-collected amniotic fluid from a critically ill pregnant woman with COVID-19, suggesting intrapartum viral exposure. Some studies have also highlighted the presence of specific anti–SARS-CoV-2 immunoglobulin (Ig) M and IgG in the sera of neonates born to infected mothers. In the absence of placental RT-PCR tests, the authors state that the detection of IgM in the newborn strengthens the possibility of in utero transmission, as IgM does not cross the intact placenta and cannot be acquired from the mother. The authors speculate whether measuring viral RNA load in the maternal serum could predict vertical transmission risk. The detection of fetal IgM antibodies could further supplement the evidence in favor of, or against, vertical transmission.	The authors explain the possibility of vertical transmission of SARS-CoV-2 and suggest measuring newborns' IgM and maternal serum viral RNA load to predict transmission risk.	Jain V, Kanchan T. Intrauterine vertical transmissibility of severe acute respiratory syndrome coronavirus 2: did we just miss the proof? American Journal of Obstetrics & Gynecology MFM. 2020;2(4, Supplement). doi:10.1016/j.ajogmf.2020.100228
COVID-19, mental health, children, tics, separation	19-Nov-20	Children experienced new or worsening tic issues when they were separated from their parents during the Italian COVID-19 lockdown	Acta Paediatrica	Original Research	This paper focuses on the consequences of social distancing measures on child mental and social health. It shares the experiences of staff at the Italian University Hospital in Rome and discusses the consequences of separating children from parents who test positive for SARS-CoV-2 to protect them from infection. In general, the harm of separation is greater than the physical risk posed by COVID-19. About two weeks after three children were separated from their parents, they developed eye and mouth tic disorders which merited hospital treatment. The last of the four children in this article developed a more severe tic after their separation. Some of the practices during the pandemic have affected child mental health and are no longer ethically acceptable. These are the routine and long-lasting separation of children from their families, lengthy school closures and not being able to visit public outdoor spaces or play with other children. At the same time,	This paper focuses on the consequences of social distancing measures on child mental and social health, discussing experiences of staff at an Italian university hospital and observed exacerbations of tic symptoms in children. The authors recommend a shift from social distancing to physical distancing with social inclusion, particularly for children.	Buonsenso D, De Rose C, Mariotti P. Children experienced new or worsening tic issues when they were separated from their parents during the Italian COVID-19 lockdown. Acta Paediatr. 2021;110(2):394-396. doi:10.1111/apa.15684

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					families should be actively educated on the importance and proper use of masks and hygiene practices. The authors note that studies have showed that newborn infants were not infected by mothers who tested positive for the virus if the mother practiced proper hygiene and mask use, even if they remained in the same room and the infant was breastfed. The authors recommend a shift from social distancing to physical distancing with social inclusion for the benefit of children's health.		
Pregnancy, symptoms, maternal outcomes, perinatal outcomes, vertical transmission	19-Nov-20	Maternal clinical characteristics and perinatal outcomes among pregnant women with Coronavirus Disease 2019. A systematic review	Travel Medicine and Infectious Disease	Review	This review aimed to assess clinical characteristics, maternal outcomes, perinatal outcomes, and possibility of vertical transmission in SARS-CoV-2-infected pregnant women. MEDLINE, EMBASE, Cochrane Library, LILACS, and several Chinese medical databases were searched from December 01, 2019-April 27, 2020 for studies reporting RT-PCR-confirmed SARS-CoV-2 in pregnant women. 33 articles were included in descriptive analyses, and 4 case-controls for meta-analysis. In 322 infected pregnant women ages 20-45 years, maternal co-morbidities were reported in 128 women, with the most frequent being obesity (n=31, 24.2%). Among 169 pregnant women, 42 (28.4%) were asymptomatic at admission, while in symptomatic women, cough (n = 148/248, 59.7%) and fever (n = 147/248, 59.3%) were the most prevalent. 195 of the total 322 pregnant women (60.6%) delivered: C-section was reported in 99 (50.8%) and vaginal delivery in 64 (32.8%). The main adverse obstetric outcome was premature birth (n = 37/195, 18.9%). 30 women (10.3%) with COVID-19-related complications required intensive care and 1/322 (0.3%) died. SARS-CoV-2 was not found in breast milk (0/17), amniotic fluid (0/25), umbilical cord (0/16) or placenta (0/15). Among 138 neonates, 4 (3.6%) tested SARS-CoV-2 positive between 16-36 hours after birth. Meta-analysis of 4 case-control studies did not find a significant difference in preterm birth or low-birth-weight infants for women with and without COVID-19. The authors conclude that maternal clinical characteristics in pregnant women with COVID-19 are slightly different than the general population; however, no convincing evidence of vertical transmission exists.	COVID-19 may result in long-lasting congenital anomalies of infants due to infection or anti-viral drugs' side effects. The use of antiviral drugs should be regulated in COVID-19 pregnant patients until its safety and efficacy for neonates are established.	Novoa RH, Quintana W, Llancarí P, Urbina-Quispe K, Guevara-Ríos E, Ventura W. Maternal clinical characteristics and perinatal outcomes among pregnant women with coronavirus disease 2019. A systematic review. Travel Med Infect Dis. 2020 Nov 19;39:101919. doi: 10.1016/j.tmaid.2020.101919.
Iran; asthma; pregnancy; COVID-19	19-Nov-20	An asthmatic pregnant woman with COVID-19: A case report study	Respiratory Medicine Case Reports	Case Report	This is the case of a 32-year-old asthmatic pregnant woman with COVID-19 who presented to a hospital in Iran on 19 March 2020, at 35 5/7 weeks' gestation. The patient had suffered from asthma since childhood, and her symptoms worsened during pregnancy. She had a history of otalgia, sore throat, and tooth abscess and was treated with antibiotics 10 days before presenting to the medical center. 4 days later, the patient's condition worsened with new symptoms of cough, dyspnea, inability to speak, numbness, and fatigue. The authors present the patient's vital signs and laboratory results in tables. She was admitted to the ICU and treated with multiple antibiotics and oxygen. Given her family's recent cold-like symptoms, the patient was tested for SARS-CoV-2, and the RT-PCR was positive. Chest CT showed multiple infiltrations in both lungs, consistent with COVID-19. The patient underwent an emergency C-section at 36 weeks' gestation, due to premature rupture of membranes and fetal tachycardia. A healthy neonate was born, separated from the mother, and fed with formula. The patient was treated with lopinavir/ritonavir, enoxaparin, and	This is the case of a 32-year-old pregnant woman with asthma and COVID-19 in March 2020, in Iran. After an emergency C-section at 36 weeks' gestation and 8 days of hospitalization, the patient's condition improved, and she was discharged. The infant was exclusively fed with formula, per hospital recommendation at the time.	Motlagh AJ, Esmaelzadeh Saeieh S, Parhigar O, et al. An asthmatic pregnant woman with COVID-19: A case report study. Respiratory Medicine Case Reports. doi:10.1016/j.rmcr.2020.101296

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					hydroxychloroquine to reduce the risk of ARDS. Her condition improved after 8 days of hospitalization, and the patient was discharged with a recommendation for 14 days of quarantine and formula feeding for her newborn.		
severe acute respiratory syndrome coronavirus 2; SARS-CoV-2; COVID-19; infant; newborn; infectious disease transmission; vertical; Iran	14-Nov-20	Possible Vertical Transmission of COVID-19 to the Newborn; a Case Report	Archives of Academic Emergency Medicine	Case Report	The authors report the possible vertical transmission of COVID-19 from a mother to a neonate. A 41-year-old mother in Iran with signs and symptoms of acute respiratory illness presented with labor pain and leaking of amniotic fluid at 37 weeks' gestation, and tested positive for SARS-CoV-2 infection using RT-PCR [dates of admission not included]. She underwent emergency C-section delivery due to history of 4 previous C-sections. The RT-PCR results of the amniotic fluid and neonate < 24 hours after birth were positive for SARS-CoV-2 infection. The infant was admitted to the neonatal ICU and received supportive care. The baby was fed formula only. After 11 and 14 days, she tested negative for SARS-CoV-2. The neonate did not have any symptoms but developed fever from the 10th day of birth. The fever resolved with appropriate anti-pyretic therapy and antibiotic therapy, and she was discharged from the hospital on day 28. The authors argue that the current case supports vertical transmission of SARS-CoV-2, since the neonate was positive within the first day of life.	A 41-year-old mother in Iran with COVID-19 presented with labor pain and leaking of amniotic fluid at 37 weeks' gestation. The RT-PCR results of the amniotic fluid and neonate < 24 hours after birth by C-section were positive for SARS-CoV-2 infection. The baby was exclusively formula-fed. The authors argue that the current case supports vertical transmission of COVID-19, since the neonate was positive within the first day of life.	Parsa Y, Shokri N, Jahedbozorgan T, Naeiji Z, Zadehmodares S, Moridi A. Possible Vertical Transmission of COVID-19 to the Newborn; a Case Report. Arch Acad Emerg Med. 2020;9(1):e5.
COVID-19; newborn intensive care unit (NICU); pediatric intensive care unit (PICU); psychosocial effects; mental health; China	13-Nov-20	Principles of approach to suspected or infected patients related Covid-19 in newborn intensive care unit and pediatric intensive care unit	Perspectives in Psychiatric Care	Review	This review summarizes the physical and mental health (MH) effects of COVID-19 on children (including neonates) and their parents, with evidence and recommendations specific to pediatric ICUs and neonatal ICUs (NICUs) in China. The authors discuss transmission routes, incubation period, IPC strategies, and diagnostic methods for SARS-CoV-2 as well as clinical characteristics, treatment, and considerations for managing COVID-19 in pregnancy. Diagnostic criteria for suspected SARS-CoV-2 in neonates include temperature instability; hypo-activity, poor feeding, or tachypnoea; abnormal chest radiograph; and close contact with someone either with probable or confirmed SARS-CoV-2, pneumonia of unknown cause, or living in an epidemic area. The authors recommend isolating newborns in negative pressure NICU rooms when born to SARS-CoV-2-infected mothers, and although there is limited evidence to suggest breastfeeding can transmit SARS-CoV-2, they recommend mothers not be allowed to breastfeed their infants until they recover. The effectiveness of antiviral drugs in children is still being investigated; inappropriate use of antibiotics should be avoided, or used only for secondary bacterial infections. The authors also discuss precautions for respiratory ventilators, preparation for NICU equipment and staff, patient transport recommendations, pediatric nursing strategies, and ways that healthcare providers can better support parents' MH needs.	This review summarizes the physical and mental health (MH) effects of COVID-19 on children (including neonates) and their parents, with evidence and recommendations specific to pediatric ICUs and neonatal ICUs (NICUs) in China. Topics include transmission routes, incubation period, IPC strategies, and diagnostic methods for SARS-CoV-2, clinical characteristics, treatment, and considerations for managing COVID-19 in pregnancy, breastfeeding recommendations, equipment use, pediatric nursing recommendations, and MH support for parents.	Sarman A, Tuncay S. Principles of approach to suspected or infected patients related Covid-19 in newborn intensive care unit and pediatric intensive care unit [published online ahead of print, 2020 Nov 13]. Perspect Psychiatr Care. 2020;10.1111/ppc.12643. doi:10.1111/ppc.12643
Neonate, transmission, breast feeding, breast milk, clinical characteristics	12-Nov-20	Perinatal COVID-19: review of current evidence and practical approach towards prevention and management	European Journal of Pediatrics	Review article	In this review, the authors summarize available literature on the clinical spectrum of COVID-19 in neonates born to mothers with SARS-CoV-2 during pregnancy. They conducted a comprehensive search of PubMed, Google Scholar and Cochrane Database of Systematic Review from November 2019-June 2020. This review included 793 neonates born to 786 mothers, among which 64% (504) were delivered by C-section. There were 3 stillbirths and 107 (14%) were delivered preterm, which was the most common adverse pregnancy outcome. 629 neonates (79%) were tested after birth and 35 of	The authors review the clinical characteristics of neonates born to mothers with SARS-CoV-2 during pregnancy, and make practice recommendations for prevention and management of SARS-CoV-2 infections in neonates. For SARS-CoV-2 positive mothers, the	Vardhelli V, Pandita A, Pillai A, Badatya SK. Perinatal COVID-19: review of current evidence and practical approach towards prevention and management. Eur J

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					the tested neonates (5.5%) were positive for SARS-CoV-2. Of the 35 positive neonates, 14 (40%) were symptomatic. The most common symptom in neonates was respiratory distress. Overall, respiratory support was required for 60 neonates (7.6%), with 14 requiring mechanical ventilation, 25 requiring non-invasive ventilation, and 21 requiring nasal oxygen. Previous case series have not detected COVID-19 virus in breast milk or placenta and data from a case series of 18 mothers suggested that SARS-CoV-2 RNA in breast milk does not represent replication competent virus. Furthermore, pasteurization by Holders technique destroys the viral RNA present in the breast milk. The authors conclude that COVID-19 seems to have favorable neonatal outcomes, and most neonates are asymptomatic. For SARS-CoV-2 positive mothers, the authors recommend breast feeding with expressed breast milk, avoiding skin-to-skin contact due to risk of transmission.	authors recommend breast feeding with expressed breast milk, avoiding skin-to-skin contact due to risk of transmission.	Pediatr. 2020 Nov 12:1–23. doi: 10.1007/s00431-020-03866-3.
breastfeeding, breastfeeding benefits, breastfeeding practices, COVID-19, human, human milk microbiome, milk, milk composition, mother-to-child transmission	12-Nov-20	A Commentary on the Review Entitled, "A Scoping Review of the Human Milk Microbiome" by Groer et al	Journal of Human Lactation	Commentary	This commentary discusses a review by Groer et al., which explores the human milk microbiome (HMM) and its interaction with other microbes, including pathogens. The author of this commentary argues that maternal immunity transferred via breastmilk is the most likely way that infants will be protected from COVID-19 until a vaccine safe for infants is identified. Breastmilk contains secretory antibodies from the mother and T cells with memory characteristics, which allows a breastfed infant to fight infections more effectively and quickly. The author notes that the relationship of HMM to infant biology and health is not fully known, and this lack of understanding may have consequences during the COVID-19 pandemic. The effect of SARS-CoV-2 infection on HMM and the cells within breastmilk is unknown. Additionally, a lack of adequate technology may lead public health officials and scientists to lack insight and give faulty advice. The author urges those with authority to be careful about the recommendations they give to breastfeeding mothers during the COVID-19 pandemic and pursue future scientific inquiry, especially during public health crises, with rigor and a balanced perspective.	This commentary discusses the human milk microbiome (HMM) and its interaction with infant immunity and other microbes, including pathogens. The author urges caution in giving specific recommendations to breastfeeding mothers during the COVID-19 pandemic, as SARS-CoV-2 infection's impact on HMM and the cells within breastmilk is still poorly understood.	Wagner CL. A Commentary on the Review Entitled, "A Scoping Review of the Human Milk Microbiome" by Groer et al. J Hum Lact. 2020;36(4):644-646. doi:10.1177/0890334420931835
COVID-19 pregnancy, SARS-CoV-2, lactoferrin, oxidative stress, inflammation, neurological dysfunction	8-Nov-20	COVID-19 During Pregnancy and Postpartum: 1) Pathobiology of Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) at Maternal-Fetal Interface	Journal of Dietary Supplements	Review Article	The authors present a detailed review of the pathobiology of SARS-CoV2 infections in pregnancy [which the authors call “COVID-19 Pregnancy”] with respect to maternal physiology, known virology, and risk assessment. They review many areas of physiology including: immunological changes with pregnancy, vertical and horizontal transmission data, immune-redox changes at the placenta, multiple mechanisms of viral entry, unique virulence traits, detailed review of spike(S) protein anatomy and physiology, protein and lectin-type cell surface receptors, and the protective role of lactoferrin. The authors also review the concept of “original antigenic sin” (OAS) that in this situation describes the initial immunological imprint after common coronaviruses (CoV) and the possible impaired clearance of subsequent variant viruses such as SARS-CoV-2 infecting the same individual. This theory would support subsequent ineffective cross-reactive antibody secretion elevating the inflammatory response and facilitating viral cell entry. They discuss intrinsically disordered regions (IDRs) of the virus that enhance its ability to invade and hijack various host systems as well as survive in harsh environments. They describe the possibility of the virus	The authors present an extensive review of the pathophysiology of SARS-CoV-2 infections in the human host and specifically during pregnancy with emphasis on the multiple advantages this virus has with respect to overall virulence over human defenses. They detail the maternal and placental defenses against this virus during a COVID-19 pregnancy. And, due to concerns of the prolonged inflammation and cytokine storms seen with infections, they recommend close neurological follow-up of infants born to	Naidu Ms PharmD SAG, Clemens DrPH Fift Cfs Fasn Facn Cns Fiafst RA, Pressman Md Ms Facn P, Zaigham BSc Md PhD M, Kadkhoda PhD Sm Ascp D Abmm D Abmli K, Davies PhD DSc Mae Frsc Frcp Fls Fri KJA, Naidu PhD Facn Fls Fissvd AS. COVID-19 during Pregnancy and Postpartum. J Diet Suppl. 2020 Nov 8:1-28. doi: 10.1080/19390211.20

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					using host neutralizing antibodies as a "trojan horse" receptor to gain entry into the host cell via CD32a in particular. In addition, they examine the COVID-19 Pregnancy with respect to mucosal, maternal placenta barrier, and the protective role of lactoferrin in defense against the virus. And finally, they note that fetal affects related to prolonged placental inflammation may result in abnormal brain development including possible dysfunction and behavioral disorders.	mothers with COVID-19 during pregnancy.	20.1834049. Epub ahead of print. PMID: 33164601.
Africa; COVID-19; Hunger; livelihoods; LMICs; excess deaths	6-Nov-20	A Crisis within a Crisis: COVID-19 and Hunger in African Children	American Journal of Tropical Medicine and Hygiene	Perspective	The COVID-19 pandemic has led to strategies such as physical distancing, school closures, trade restrictions, and country lockdowns, all to curb the spread of SARS-CoV-2. These measures have significantly increased food insecurity by affecting the production and sales of nutritional, affordable food products, which has led to millions of families relying on nutrient-poor alternatives. Furthermore, travel restrictions have limited humanitarian responses and are eroding access to essential and often life-saving nutritional services. Modeling exercises have estimated that wasting could increase by 10-50% with 40,000-2 million excess child deaths in low- and middle-income countries (LMICs). It is also estimated that 80% of additional wasting of children < 5 years old during the first 12 months of the pandemic will be experienced by children in sub-Saharan Africa and South Asia. UNICEF estimates US$2.4 billion is urgently needed to protect these children and prevent excess loss of lives. The World Food Programme estimates that the number of people in LMICs facing acute food insecurity will double to 265 million by the end of 2020. The authors recommend 5 actions be taken immediately: provide access to nutritious, safe, and affordable diets, improve maternal and child nutrition through pregnancy and infancy, reactivate early detection and treatment of wasting programs, maintain safe school meal programs for vulnerable children through alternative routes, safeguard access to nutritious diets and essential services for the poorest households. The authors also stress the importance of protecting, promoting, and supporting breastfeeding of children aged 0–23 months.	The COVID-19 pandemic has led to increases in food insecurities in low- and middle-income countries (LMICs), particularly sub-Saharan Africa and South Asia. Access to nutritious, affordable diets, improving maternal and early child nutrition programs (including the promotion and support of breastfeeding), reactivating early detection and treatment of wasting programs, maintaining school meal programs, and safeguarding nutritious diets for the most vulnerable households must be reinstituted to avert an excess of 40,000-2 million child deaths in LMICs.	Aborode AT, Ogunsola SO, Adeyemo AO. A Crisis within a Crisis: COVID-19 and Hunger in African Children [published online ahead of print, 2020 Nov 6]. Am J Trop Med Hyg. 2020;10.4269/ajtmh.20-1213. doi:10.4269/ajtmh.20-1213
COVID-19, children, clinical management, diagnosis, surveillance	5-Nov-20	Recommendations for the Diagnosis, Prevention, and Control of Coronavirus Disease-19 in Children-The Chinese Perspectives	Frontiers in Pediatrics	Review	This review, facilitated by the Chinese Pediatric Society and Editorial Board of Chinese Journal of Pediatrics, discusses virology, clinical features/diagnosis, management, and surveillance of SARS-CoV-2 in children [ages not defined]. The incubation period for SARS-CoV-2 in children is typically 3–7 days (range 1–14 days). Direct contact of the mucous membrane of the eyes, nose, and mouth with contaminated hands or infectious droplets (respiratory, fecal, or urinary) are the main modes of transmission. Prolonged SARS-CoV-2 positivity was documented in children for at least 4 weeks after onset of symptoms. Signs and symptoms include fever, cough, rhinorrhea, sore throat, shortness of breath, diarrhea, headache, malaise, myalgia and chills. Nucleic acid amplification test (NAAT) with PCR primers specific for SARS-CoV-2 genes is the primary method of detection. Laboratory findings in children often display no or mild elevations in inflammatory markers. Increased liver enzymes indicate severe disease. The most common radiology finding was ground glass. Guidelines for usage and dosage are included for the following antivirals which have been authorized for compassionate use in China: lopinavir/ritonavir, ribavirin,	This review facilitated by the Chinese Pediatric Society and Editorial Board of Chinese Journal of Pediatrics defines virology, clinical features/diagnosis, management, and surveillance for children [ages not specified]. The authors recommend that infants be isolated from SARS-CoV-2 positive mothers and advise against breastfeeding until the mother has documented clearance of viral shedding.	Fang F, Chen Y, Zhao D, et al. Recommendations for the Diagnosis, Prevention, and Control of Coronavirus Disease-19 in Children-The Chinese Perspectives. Front Pediatr. 2020;8:553394. Published 2020 Nov 5. doi:10.3389/fped.2020.553394

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					chloroquine, and arbidol. The authors recommend infants born to a mother with suspected or confirmed COVID-19 should be immediately separated from the mother after delivery and admitted into an isolation room for monitoring. Breastfeeding is advised to be temporarily withheld with the mother expressing milk to maintain production for continuing breastfeeding later. The authors advise checking breast milk for SARS-CoV-2 RNA via NAAT and confirming the mother has documented clearance of viral shedding before resuming breastfeeding.		
Child early development; COVID-19; Maternal health; China	4-Nov-20	Impact of Covid-19 in pregnancy on mother's psychological status and infant's neurobehavioral development: a longitudinal cohort study in China	BioMed Central (BMC) Medicine	Original Research	This study investigates the long-term impact of COVID-19 on maternal psychological disorder and infant developmental delay in China. 72 patients (median age=31 years, IQR 28-34) with COVID-19 during pregnancy completed surveys May 1-July 31, 2020, 3 months after giving birth (n=57) or having an induced abortion (n=15). The surveys included information on COVID-19, delivery or abortion, and questions regarding quarantine, mother–infant separation, feeding, mental disorders, and infant neuro-behavioral disorders. Researchers used the Post-Traumatic Stress Disorder (PTSD) Checklist-Civilian Version, which categorized mothers as without PTSD symptoms (82.6%), potential risk of PTSD (9.5%), and full PTSD diagnosis (7.9%). Maternal postpartum depression was assessed using the Edinburgh Postnatal Depression Scale, categorizing participants with no symptoms of postpartum depression (82.6%), minor postpartum depression (6.3%), and major postpartum depression (11.1%). Infant neuro-behavioral development was assessed using the Ages and Stages Questionnaires, which categorize neonates into "normal," "monitoring," and at "risk." 13.5% of infants were in the "monitoring" and 23.1% were in the "risk" categories, in any of the communication, gross motor, fine motor, problem solving, or personal-social developmental domains. 22.7% of infants were in the "monitoring" and 63.6% were in the "risk" categories for the social-emotional domain. Mother-infant separation significantly correlated with 3 domains of lower development: communication, gross motor, and personal-social ($p<0.05$). 22.2% of patients were suffering from PTSD or depression 3 months after delivery or induced abortion.	This study investigates the long-term impact of COVID-19 in pregnancy on maternal psychological disorder and infant developmental delay in China. The authors found that 22.2% of patients were suffering from post-traumatic stress disorder or depression 3 months after delivery or induced abortion, during the 2020 COVID-19 pandemic.	Wang, Y., Chen, L., Wu, T. et al. Impact of Covid-19 in pregnancy on mother's psychological status and infant's neurobehavioral development: a longitudinal cohort study in China. BMC Med 18, 347 (2020). https://doi.org/10.1186/s12916-020-01825-1
Pregnancy, psychology, PTSD, depression, development, separation, China	4-Nov-20	Impact of Covid-19 in pregnancy on mother's psychological status and infant's neurobehavioral development: a longitudinal cohort study in China	BioMed Central (BMC) Medicine	Original research	In this longitudinal cohort study conducted from May 1-July 31, 2020 in China, the authors aimed to evaluate the long-term impact of COVID-19 in pregnancy on maternal psychological status and infant neurobehavioral development. Pregnant women with confirmed COVID-19 were contacted and surveyed at 4 time points: at the time of recruitment and at 1 week, 1 month, and 3 months after delivery. The PTSD Checklist-Civilian Version (PCL-C), Edinburgh Postnatal Depression Scale (EPDS), Ages and Stages Questionnaires, third edition (ASQ-3) and the Ages and Stages Questionnaire: Social-Emotional, second edition (ASQ:SE-2) were used to assess maternal symptoms and infant development. Among 72 pregnant patients, 13 (18.1%) were infected with SARS-CoV-2 in the 1st trimester, 6 cases (8.3%) in the 2nd trimester, and 53 cases (73.6%) in the 3rd trimester. 57 pregnant patients (79.2%) had a live birth, while 15 cases (20.8%) experienced an induced abortion. 22.2% (14/63) of pregnant women were suffering from either PTSD or depression at 3 months. Among 57 live births,	The authors assessed the long-term impact of COVID-19 in pregnancy on maternal psychological status and infant neurobehavioral development. More than one in five women experienced PTSD or depression by three months after delivery. Only 36.8% of infants were breastfeeding at 3 months.	Wang Y, Chen L, Wu T, et al. Impact of Covid-19 in pregnancy on mother's psychological status and infant's neurobehavioral development: a longitudinal cohort study in China. BMC Med. 2020 Nov 4;18(1):347. doi: 10.1186/s12916-020-01825-1.

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					only 1 neonate was positive for SARS-CoV-2 nucleic acid. The breastfeeding rate was 8.8% at 1 week after birth, 19.3% at 1 month, and 36.8% at 3 months. The median duration of mother–infant separation was 35 days (16-52 days). On assessment of the neurobehavioral development of infants, four domains were found to be negatively linked with mother–infant separation, including gross motor, problem solving, personal–social, and social–emotional domains of development ($p < 0.05$). The authors conclude that healthcare providers should pay attention to maternal mental health and infant early development following maternal SARS-CoV-2 infection.		
COVID-19; oral nutritional supplements; children; diet; nutrition; vitamin D	4-Nov-20	Can Nutrition Play a Role as a Stimulant for COVID 19 in Children? [Free Access to Abstract Only]	Reviews on Recent Clinical Trials	Review	The authors describe a study to critically investigate pediatric nutrition during the COVID-19 pandemic. A literature search was performed using the search terms "Covid19" + "Children" + "Nutrition" to analyze the current evidence to supporting nutrition as a stimulant for COVID-19. Strong recommendations remain unchanged for breast feeding, healthy complimentary feeding and use of supplemental formula where appropriate. Oral nutritional supplements, zinc, n-3 and n- 6 fatty acids and probiotics all have a certain role to play as a stimulant for COVID-19 in children. Current evidence emphasizes the use of additional nutritional supplements especially for "at risk" groups, low socio-economic status group and children with chronic medical problems. Pediatric nutrition should never be overlooked and "one size does not fit all" as every child is different and their individual nutritional needs vary.	The authors describe a study to critically investigate pediatric nutrition during the COVID-19 pandemic. The review highlights the importance of nutrition as a stimulant to COVID-19 in the pediatric population. Attention should be given to individual nutritional needs which vary for each child, with additional nutritional supplements recommended for "at risk" groups, low socio-economic status group and children with chronic medical problems.	Kesavelu D, Franklyn N, Sreedharan L. Can Nutrition Play a Role as a Stimulant for COVID 19 in Children? Rev Recent Clin Trials. 2020. doi:10.2174/1574887115666201104154713.
maternal COVID-19; neonatal transmission; breastfeeding; Alsace, France	3-Nov-20	Favorable outcomes among neonates not separated from their symptomatic SARS-CoV-2-infected mothers	Pediatric Research	Original Research	This retrospective study evaluated all term and near-term infants born to mothers confirmed to have COVID-19 during the last 2 weeks of their pregnancy between March 15 and April 24, 2020. The study examined the results of guidelines from 2 perinatal hospitals in Alsace, France which chose not to systematically separate neonates from their COVID-19 positive mothers. 26 mother-infant pairs were included in the study. SARS-CoV-2 nasal and anal swabs were obtained from the infants at birth and day 3, and breast milk was sampled on days 3 and 7 by PCR testing. Only one infant tested positive via an anal swab collected on day 3. This neonate was asymptomatic, and all other PCR tests on the same infant were negative for SARS-CoV-2. Infants rarely appear to become ill with COVID-19, and when they do, it is often a mild case. Despite a global fear of vertical transmission, the authors found no such cases in this very small study and hypothesize that breastfeeding may, in fact, be protective as antibodies against SARS-CoV-2 have been identified in breast milk. The authors stress that separation may have more significant consequences than providing early skin-to-skin contact and breastfeeding as long as good infection prevention measures are in place. Further study is needed with long term follow-ups to support the positions presented fully.	This retrospective study determined if the guidelines in 2 hospitals in Alsace, France were safe for infants born to SARS-CoV-2 positive mothers. The hospitals did not institute systematic separation, but rather instituted careful follow up and infection prevention measures even during breastfeeding practices. Only one infant tested positive for COVID-19 from one sample and remained asymptomatic.	Martenot A, Labbassi I, Delfils-Stern A, et al. Favorable outcomes among neonates not separated from their symptomatic SARS-CoV-2-infected mothers [published online ahead of print, 2020 Nov 3]. Pediatr Res. 2020;1-4. doi:10.1038/s41390-020-01226-3

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COVID-19; meta-analysis; pregnancy; protocol; breastfeeding; vertical transmission	3-Nov-20	Impact of SARS-CoV-2 (COVID-19) on pregnancy: a systematic review and meta-analysis protocol	British Journal of Medicine (BMJ) Open	Protocol for Meta-Analysis	The authors outline the protocol for a meta-analysis to examine the impact of COVID-19 on maternal and fetal morbidity and mortality [full list in article]. Many of the singular studies published thus far have small sample sizes. Therefore, it is critical that this information is amassed in order to inform decisions on additional protection for pregnant healthcare workers, whether to separate infants from infected mothers, whether it is safe for women to breastfeed and clarify whether pregnant women are more susceptible and if vertical transmission occurs. Numerous databases will be searched for observational studies (cohort and control cases) published from December 2019 to present (publication date). Three independent reviewers will select the studies and extract data and the risk of bias will be assessed using the Newcastle-Ottawa Scale for observational studies. To evaluate the strength of evidence from the included data, the authors will use the Grading of Recommendations Assessment Development and Evaluation (GRADE) approach. GRADE tool classifies the studies as low, moderate, and high quality. The authors will assess the heterogeneity of included studies, and a quantitative synthesis will be performed if studies are sufficiently homogenous.	This is the protocol for a meta-analysis designed to examine the impact of COVID-19 on maternal and infant outcomes. As the previously published studies have a small sample size and varying results, the authors hope to present the results in a concise and practical manner.	Medeiros, K. S., Sarmento, A., Martins, E. S., Costa, A., Eleutério, J., Jr, & Gonçalves, A. K. (2020). Impact of SARS-CoV-2 (COVID-19) on pregnancy: a systematic review and meta-analysis protocol. BMJ open, 10(11), e039933. https://doi.org/10.1136/bmjopen-2020-039933
pregnancy; maternal mortality; meta-analysis; cesarean delivery; COVID-19; vertical transmission	2-Nov-20	Impact of COVID-19 on maternal and neonatal outcomes: a systematic review and meta-analysis	Clinical Microbiology and infection	Systematic review	This systematic review and meta-analysis aimed to assess the impact of COVID-19 on maternal and neonatal outcomes. Six databases were search for articles with original data (case series, cohort, retrospective, case control studies) published before May 8, 2020. Two reviewers reviewed 878 deduplicated articles and extracted data from a final 24 articles, including 1100 pregnancies of Chinese, European and North American women in the analysis. The authors present the most common symptoms (pneumonia prevalence = 89%) and outcomes and report that the prevalence of ICU admissions and maternal deaths do not differ from that of non-pregnant women. Prevalence of C-section (85%) and preterm birth (23%) were higher in the COVID-19 infected pregnant women than in the general population. The prevalence of COVID-19-related admission to the NICU was 2% (9 out of 474). There were 3 neonatal deaths and 19 out of 444 neonates had a positive nasopharyngeal swab at birth. The authors conclude that clinical characteristics of COVID-19 in pregnant patients seem to be similar to those in non-pregnant infected adults. Additionally, the authors report there is currently no clear evidence of vertical transmission of COVID-19 and therefore COVID-19 itself should not be considered as an indication for elective caesarean delivery.	This meta-analysis shows a high frequency of preterm births and caesarean deliveries and a low rate of breastfeeding, not fully explained by the severity of maternal disease or fetal compromise. The authors report no clear evidence of vertical transmission of COVID-19	Tug N, Yassa M, Köle E, Sakin Ö, Çakır Köle M, Karateke A, Yiyit N, Yavuz E, Birol P, Budak D, Kol Ö, Emir E. Pregnancy worsens the morbidity of COVID-19 and this effect becomes more prominent as pregnancy advances. Turk J Obstet Gynecol. 2020 Sep;17(3):149-154. doi: 10.4274/tjod.galenos.2020.38924. Epub 2020 Oct 2. PMID: 33072417; PMCID: PMC7538816.
Pregnancy; COVID-19; Coronavirus; infectious disease; emergency physicians; International studies	2-Nov-20	COVID-19 in pregnancy and the puerperium: A review for emergency physicians	American Journal of Emergency Medicine	Narrative review	The authors undertook a narrative review of 59 articles to provide clinicians with data on clinical manifestations of COVID-19 in pregnancy, the effects of pregnancy on the course of the disease, the impact of COVID-19 on pregnancy outcomes, and the safety of COVID-19 treatments during pregnancy, and evidence related to breastfeeding. Most pregnant women diagnosed with COVID-19 have a mild illness course and recover without any problems for their pregnancy. The most common symptoms for pregnant women are similar to the general population of cough and fever, although many pregnant women are asymptomatic. Women in their third trimester have the highest risk for critical illness, ICU admission, and mechanical	This article is a narrative review of 59 articles for clinicians to become more aware of clinical manifestations of COVID-19 in pregnancy, the effects of pregnancy on the course of the disease, the impact of COVID-19 on pregnancy outcomes, the safety of COVID-19 treatments during	Boushra, MN, Koyfman, A, Long,B. COVID-19 in pregnancy and the puerperium: A review for emergency physicians [published online ahead of print 2 Nov. 2020] American Journal of Emergency

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					ventilation. Adverse outcomes associated with COVID-19 include miscarriage, prematurity, and fetal growth restriction. Several studies have shown a higher than standard rate of C-sections and premature births independent of the disease's severity. Miscarriage rates are 16.1% in the first trimester and 3.5% in the second trimester. Vertical transmission and breast milk transmission are possible but have not been proven yet. Given the current paucity of evidence, the WHO and CDC recommend mothers with COVID-19 continue to breastfeed newborns as long as basic hygiene measures are followed, including the use of facemasks. A detailed algorithm for the disposition of pregnant COVID-19 patients is also presented.	pregnancy, and evidence related to breastfeeding.	Medicine. Https://doi.org/10101 6/j.ajem.2020.10.055
Neonate, breastfeeding, breast milk, antibody, SARS-CoV-2, pregnancy, China	1-Nov-20	A Study of Breastfeeding Practices, SARS-CoV-2 and its Antibodies in the Breast Milk of Mothers Confirmed with COVID-19	The Lancet Regional Health – Western Pacific	Research Paper	The authors present the interim results of a multi-center study on breastfeeding practices in the first 56 days after delivery and the presence of SARS-CoV-2 and its antibodies in the breastmilk of mothers with confirmed COVID-19. They recruited 24 mothers with confirmed COVID-19, 19 mothers with suspected COVID-19 but PCR negative, 21 mothers without COVID-19 (control group), and their neonates from Hubei province, China, between February 10 to April 1, 2020. Information on breastfeeding practices was collected via telephone calls, and 44 breast milk samples were collected from 16 of the 24 mothers with confirmed COVID-19 for SARS-CoV-2 RNA and antibodies were tested. The results showed no evidence of SARS-CoV-2 RNA in the breast milk of 16 mothers with confirmed COVID-19 between 3–79 days from the onset of COVID-19 symptoms. Also, SARS-CoV-2 IgM antibody was detected in the breast milk of some mothers confirmed with COVID-19 between 3–68 days after the onset of symptoms, whereas IgG antibody was not detected in the breast milk samples several weeks post-infection. Of note, breastfeeding rates were lower in COVID-19 confirmed and suspected/PCR negative mothers (58.3% and 52.6%, respectively) than in the control group (95.2%). Furthermore, mothers with confirmed COVID-19 delayed breastfeeding or feeding expressed breast milk to infants until three weeks after delivery, primarily due to strict isolation and quarantine measures.	This study's interim findings showed that mothers with confirmed or suspected COVID-19 had lower rates of breastfeeding compared to mothers without COVID-19. Also, there was no evidence of SARS-CoV-2 RNA or IgG antibody in breast milk, but SARS-CoV-2 IgM antibody was detected in the breast milk of some mothers with confirmed COVID-19.	Peng S, Zhu H, Yang L, et al. A study of breastfeeding practices, SARS-CoV-2 and its antibodies in the breast milk of mothers confirmed with COVID-19. The Lancet Regional Health - Western Pacific. 2020;4:100045. Published 2020 Nov 1. doi:10.1016/j.lanwpc. 2020.100045
Pregnancy outcomes; maternal morbidity; mother-child transmission; SARS-CoV-2; transferred immunity	1-Nov-20	Pregnancy Outcomes in COVID-19: A Prospective Cohort Study in Singapore	Annals of the Academy of Medicine, Singapore	Original Article	The authors conducted a prospective observational study of 16 pregnant patients (aged 23-36 years) admitted for COVID-19 to 4 tertiary hospitals in Singapore between March 15-August 22, 2020, to describe and evaluate outcomes including severe disease, pregnancy loss, and vertical and horizontal transmission. Gestational age at diagnosis ranged from 4-36 weeks, based on either last menstrual period or ultrasound on admission (first trimester n=6; second trimester n=7; third trimester n=3). Of the 16 patients, 37.5%, 43.8%, and 18.7% were infected in the first, second, and third trimesters, respectively. The median duration of viral shedding was 19 days, but one patient was still RT-PCR positive >11 weeks from diagnosis. There were no maternal mortalities. Of the 9 patients with pre-viable pregnancies (<24 weeks' gestation), 22.2% had spontaneous miscarriages. In the 5 women who delivered, RT-PCR of breast milk; swabs of the vagina, umbilical cord, and maternal and fetal placental surfaces; amniotic fluid; and maternal blood and umbilical cord blood were all negative, placenta and cord histology showed non-specific inflammation, and SARS-CoV-2-specific	The authors conducted a prospective observational study of 16 pregnant patients (aged 23-36 years) admitted for COVID-19 to 4 tertiary hospitals in Singapore between March 15-August 22, 2020. The authors conclude that the systematic assessment of prenatal and perinatal samples in this cohort supports the low likelihood of mother-child transmission, with paired maternal-neonatal seropositivity suggesting transferred immunity. In all breast mild samples, SARS-CoV-2 RT-PCR was negative.	Mattar CN, Kalimuddin S, Sadarangani SP, et al. Pregnancy Outcomes in COVID-19: A Prospective Cohort Study in Singapore. Ann Acad Med Singap. 2020;49(11):857-869. doi:10.47102/annals-acadmedsg.2020437

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					immunoglobulins were elevated in paired maternal and umbilical cord blood. All mothers had immediate skin-to-skin contact and direct breastfeeding, and all mother–baby pairs were discharged well on postnatal day 2. The authors conclude that the systematic assessment of prenatal and perinatal samples in this cohort supports the low likelihood of mother-child transmission, with paired maternal-neonatal seropositivity suggesting transferred immunity.		
Vertical transmission; SARS-CoV-2; COVID-19; Pakistan; Pregnant women; Infants; Neonates	30-Oct-20	Vertical Transmission of Novel Coronavirus (COVID-19) from Mother to Newborn: Experience from a Maternity Unit, The Indus Hospital, Karachi	Journal of the College of Physicians and Surgeons Pakistan	Letter to the Editor	The authors report a lack of cases of neonates contracting COVID-19 due to mothers testing positive for SARS-CoV-2 infection in a hospital in Pakistan. COVID-19 testing was performed on all mothers prior to normal delivery or C-section, and 66 mothers tested positive between April 27-June 16, 2020. 21 neonates were delivered via spontaneous vaginal delivery, 7 via elective C-section, and 40 via emergency C-section that was carried out under spinal anesthesia. All 67 neonates were tested for SARS-CoV-2 infection by nasopharyngeal swab PCR, and all neonates were negative. All infants remained stable in the COVID isolation ward with their mothers, and mothers breastfed their infants while wearing a face mask. All infants were discharged after 48 hours of life.	The authors report a lack of cases of neonates contracting COVID-19 due to mothers testing positive for SARS-CoV-2 infection in a hospital in Pakistan. 66 mothers tested positive for SARS-CoV-2 infection before delivery, and all 67 neonates delivered tested negative.	Khan MA, Kumar V, Ali SR. Vertical Transmission of Novel Coronavirus (COVID-19) from Mother to Newborn: Experience from a Maternity Unit, The Indus Hospital, Karachi. J Coll Physicians Surg Pak. 2020;30(10):136. doi:10.29271/jcpsp.2020.10.136
COVID-19 epidemic; SARS-CoV-2; breastfeeding; perinatal management; pregnancy; vertical infection transmission; Italy	29-Oct-20	Safe Perinatal Management of Neonates Born to SARS-CoV-2 Positive Mothers at the Epicenter of the Italian Epidemic	Frontiers in Pediatrics	Original Research	In this cohort study, the authors describe perinatal management of neonates born to SARS-CoV-2-infected mothers (n=15) who delivered at their hospital in Piacenza, Italy from 22 February-23 April 2020. Mothers and offspring were separated only in cases of severe clinical symptoms, and breastfeeding and/or expressed breast milk feeding was encouraged, under strict compliance with appropriate hygiene standards. Only 2 infants were not allowed to have immediate bonding, permanent rooming-in, and direct breastfeeding. All newborns from SARS-CoV-2 positive mothers were tested via nasopharyngeal swab at birth, and again on day 3 and/or day 7. 14 neonates were born at term, and 1 neonate was born at 36 weeks' gestational age. 2 infants tested positive for SARS-CoV-2 infection but were negative by day 14 of life and remained asymptomatic throughout their infection. The authors conclude that their study suggests that SARS-CoV-2 infection during pregnancy is not associated with worse clinical outcomes compared to non-infected pregnant patients and/or with higher rates of preterm birth and intra-uterine growth restriction. Breastfeeding appears to be safe and protective for the neonate once appropriate preventive measures are adopted.	This cohort study describes perinatal management of neonates born to SARS-CoV-2-infected mothers in Piacenza, Italy from 22 February-23 April 2020. The authors state that their study suggests no worse clinical outcomes in infected pregnant patients than non-infected patients, and breastfeeding appears to be safe and protective for the neonate once strict hygiene measures are adopted.	Biasucci G, Cannalire G, Raymond A, et al. Safe Perinatal Management of Neonates Born to SARS-CoV-2 Positive Mothers at the Epicenter of the Italian Epidemic. Front Pediatr. 2020;8:565522. Published 2020 Oct 29. doi:10.3389/fped.2020.565522
Third trimester of pregnancy; SARS-CoV-2; COVID-19; Midwifery and Nursing strategies; China, breastfeeding,	29-Oct-20	Midwifery and Nursing Strategies to protect against COVID-19 During the Third Trimester of Pregnancy	Midwifery	Article	This study explored nursing and midwifery interventions among women in their 3rd trimester of pregnancy through a retrospective review of medical records from 35 women with SARS-CoV-2 in their 3rd trimester of pregnancy who were admitted to a hospital in Wuhan, China in January and February 2020. 31 women delivered by C-section and 4 had vaginal births and no complications were reported. IPC measures included adjustments to the maternity ward layout, increased ventilation and disinfection, and the provision of training and PPE for clinical staff. Pregnant women with COVID-19 were strictly isolated, and only 1 family member was allowed to	This study restrospectively reviewed the medical records of 35 women with SARS-CoV-2 in their 3rd trimester of pregnancy who were admitted to a hospital in Wuhan, China in January and February, 2020. The authors investigated the clinical characteristics COVID-19 in	Liu J, Cao Y, Xu C, et al. Midwifery and nursing strategies to protect against COVID-19 during the third trimester of pregnancy. Midwifery. 2021;92:102876.

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
mental health; infection control					accompany them. The main clinical manifestations of COVID-19 in the 3rd trimester included low-grade fever, cough, myalgia, sore throat, and diarrhea. Symptoms were morely likely to develop in severity after delivery. Women were monitored for changes in temperature, bowel movements, fetal movements, vaginal bleeding, and respiratory symptoms. Midwives and nurses encouraged deep breathing, helped them turn, and performed chest percussion sessions to loosen lung congestion. Guidance for women using breast milk banks is provided and recommendations for breastfeeding and collection of breast milk are discussed. The authors also stress the importance of reducing maternal stress by providing updated information on COVID-19, discussing isolation protocols, emphasizing positive information, encouraging communication with the mother's support system, and providing resources for psychological counseling.	pregnancy, the individualized midwifery and nursing care offered, infection prevention and control measures, maternal observations, and psychological care.	doi:10.1016/j.midw.2020.102876.
Neonatology, perinatology, maternal and infant health, breastfeeding, skin-to-skin	29-Oct-20	Multi-centre study showed reduced compliance with the World Health Organization recommendations on exclusive breastfeeding during COVID-19	Acta Paediatrica	Brief Report	This descriptive, multi-center study assessed the impact of COVID-19 pandemic restrictions on exclusive breastfeeding across 15 hospitals in Spain 13 March-31 May 2020. The authors collected data on breastfeeding, skin-to-skin contact, mother-child separation, and whether a companion was present during birth for deliveries involving SARS-CoV-2-infected mothers (n=242) and their infants (n=248; median gestational age=39 weeks, IQR: 38-40 weeks). The authors reported that 13 infants tested positive for the virus but were considered to be false positives [no further explanation is given]. 108 infants (43.5%) did not receive skin-to-skin contact, and 114 (45.9%) were separated from their mothers. 39.2% of the singleton births and 42.8% of the twin deliveries had a companion present. A strong correlation was found between the percentage of newborn infants who received exclusive breastfeeding at discharge and the percentage of infants who received skin-to-skin contact (r = 0.828), and the percentage of mothers who had a companion present during delivery (r = 0.833). A strong negative correlation was found between the percentage of infants receiving exclusive breastfeeding at discharge and the percentage of neonates separated from their mothers at birth (r = -0.862). The authors state that this study indicates that pandemic recommendations by the WHO and UNICEF's Baby Friendly Initiative were not universally followed by hospitals, leading to reductions in exclusive breastfeeding. The authors urge hospitals to account for these recommendations when creating institutional COVID-19 policies.	This brief report found that 15 hospitals in Spain did not universally follow COVID-19-pandemic recommendations by UNICEF's Baby Friendly Initiative and the WHO, leading to reductions in exclusive breastfeeding. The authors urge hospitals to account for these recommendations when creating institutional COVID-19 policies.	Del Río R, Dip Pérez E, Marín Gabriel MÁ. Multi-centre study showed reduced compliance with the World Health Organization recommendations on exclusive breastfeeding during COVID-19. Acta Paediatr. 2020;10.1111/apa.15642. doi:10.1111/apa.15642
ACE2, ARDS, MERS, acutely ill, coronavirus, coronavirus disease 2019, maternal morbidity, obstetric management, pandemic, pregnancy, severe acute	29-Oct-20	Care of the pregnant woman with coronavirus disease 2019 in labor and delivery: anesthesia, emergency cesarean delivery, differential diagnosis in the	American Journal of Obstetrics and Gynecology	Clinical Opinion	In this article, written in March 2020, the authors offer guidance on caring for women with COVID-19 in labor and delivery. They report that pregnant COVID-19 patients may present with atypical features such as the absence of fever. When a COVID-19 RT-PCR test is negative in suspect cases, chest imaging should be considered. The authors remind health care staff to follow current recommendations for hand hygiene and PPE. Enhanced infection control precautions include limiting the number of visitors and care providers in the delivery suite. The authors state that, when a laboring woman has COVID-19, the threshold for C-section should be lower than usual so that infection control procedures can be followed and disease transmission minimized. For C-sections, general anesthesia is discouraged, but when necessary, tracheal intubation should be performed with a cuffed	In this article, written in March 2020, the authors offer guidance on caring for women with COVID-19 in labor and delivery. The authors suggest that routine birth processes such as delayed cord Clamping and skin-to-skin bonding may need to be revised in these cases. Due to limited evidence about breastfeeding and COVID-19 at the time of their writing, the authors suggest only allowing the	Ashokka B, Loh MH, Tan CH, Su LL, Young BE, Lye DC, Biswas A, Illanes SE, Choolani M. Care of the pregnant woman with coronavirus disease 2019 in labor and delivery: anesthesia, emergency cesarean delivery, differential diagnosis in the acutel

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respiratory syndrome, vertical transmission, virus		acutely ill parturient, care of the newborn, and protection of the healthcare personnel			tube, and the airway team should don full PPE with respirators. The article includes an algorithm for care of the acutely ill parturient. Key decisions should be made based on the presence of maternal or fetal compromise, adequacy of maternal oxygenation, and stability of maternal blood pressure. Although vertical transmission is unlikely, there must be measures in place to prevent neonatal infections. The authors suggest that routine birth processes such as delayed cord clamping and skin-to-skin bonding may need to be revised if the mother has COVID-19. Due to limited evidence about breastfeeding and COVID-19 at the time of their writing, the authors suggest only allowing the use of screened donated breast milk from COVID-19 negative mothers.	use of screened donated breast milk from COVID-19 negative mothers.	y ill parturient, care of the newborn, and protection of the healthcare personnel. Am J Obstet Gynecol. 2020 Jul;223(1):66-74.e3. doi: 10.1016/j.ajog.2020.04.005. Epub 2020 Apr 10. PMID: 32283073; PMCID: PMC7151436.
Australia, guidelines, perinatal care, pregnancy	29-Oct-20	Clinical Care of Pregnant and Post-partum Women with COVID-19: Living Recommendations from the National COVID-19 Clinical Evidence Taskforce	Aust N Z J Obstet Gynaecol	Taskforce Recommendations	This paper provides updated recommendations regarding care for pregnant and post-partum women as determined by The National COVID-19 Clinical Evidence Taskforce of Australia. Many standard recommendations, for example, promotion of breastfeeding, are not changed but modified by encouraging the use of masks, hand hygiene, and breast cleansing. The taskforce does support the use of dexamethasone for pregnant women with COVID-19 on supplemental oxygen, the use of prone positioning, and ECMO when indicated. Detailed recommendations are provided regarding venous thrombo-embolism (VTE) prevention. While the use of hydroxychloroquine for treatment is not recommended, the taskforce suggests using other disease modifying medications only within a clinical trial setting.	The National COVID-19 Clinical Evidence Taskforce of Australia presents updated specific recommendations for care of the pregnant and post-partum women. Notable updates include the use of dexamethasone, prone positioning, ECMO, thrombo-embolism prophylaxis, as well as clarification of COVID-19 disease modifying medications.	Vogel JP, Tendal B, Giles M, et al; National COVID-19 Clinical Evidence Taskforce. Clinical care of pregnant and postpartum women with COVID-19: Living recommendations from the National COVID-19 Clinical Evidence Taskforce. Aust N Z J Obstet Gynaecol. 2020 Oct 29. doi: 10.1111/ajo.13270. Epub ahead of print. PMID: 33119139.
Pregnancy and COVID-19; Cycle threshold; Feto-maternal outcomes in COVID-19; Vertical Transmission in COVID 19; Maternal mortality and COVID-19; SARS-CoV-2; India	28-Oct-20	Clinical Profile,Viral load(E,RdRP,ORF1 gene), Feto-maternal outcomes of pregnant women with COVID-19 in a Tertiary care Hospital of India : First 4 weeks experience: retrospective, single-centre descriptive study	Journal of Obstetrics and Gynaecology Canada	Original Research	In this single-center retrospective study, the authors report the clinical course and feto-maternal outcomes of pregnant patients with COVID-19 who received care at a tertiary care hospital in India from 5 May-5 June 2020 (n=57). Data extracted from patients' individual medical records included demographic information, obstetric details, co-morbidities, disease severity, management, and information on neonates (birth weight, Apgar score, and perinatal complications). 45 pregnant patients (78.9%) had mild infection with favorable feto-maternal outcomes. 3 maternal mortalities occurred and were associated with co-morbidities. 5 neonates tested positive for SARS-CoV-2, remained hemodynamically stable, and were subsequently discharged [of note: 1 out of 4 neonates did not receive breastmilk as mother was in ICU]. Fetal distress was the most common indicator for cesarean delivery, which the authors state raises a research question of placental insufficiency in pregnancy during SARS-CoV-2. The report includes a brief discussion on using the Cycle threshold obtained from qRT-PCR, which signifies viral load and degree of infectivity, to modify pregnancy management during SARS-CoV-2 infection. The authors also state the need for further research on long-term outcomes and potential mother-to-child	This single-center retrospective study from India found that most SARS-CoV-2-infected pregnant patients had mild disease and recovered with positive perinatal outcomes, but pregnant patients with co-morbidities may have an increased risk of severe morbidity and mortality. The authors suggest that the qRT-PCR Cycle threshold may be useful for modifying pregnancy management.	Bachani S, Arora R, Dabral A, et al. Clinical Profile,Viral load(E,RdRP,ORF1 gene), Feto-maternal outcomes of pregnant women with COVID-19 in a Tertiary care Hospital of India : First 4 weeks experience: retrospective, single-centre descriptive study. J Obstet Gynocol Can. 2020; doi: 10.1016/j.jogc.2020.09.021

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					vertical/horizontal transmission. The authors conclude that positive maternal, fetal, and neonatal outcomes of pregnant SARS-CoV-2-infected patients infected during late pregnancy were achieved with intensive, active management, which might be the best practice in the absence of further data.		
Breastfeeding, Breast Milk, Infant, SARS-CoV-2, Italy	27-Oct-20	Detection of SARS-CoV-2 in Milk From COVID-19 Positive Mothers and Follow-Up of Their Infants	Frontiers in Pediatrics	Brief Research Report	This study sought to determine whether breast milk is a vehicle for SARS-CoV-2 infection. Milk samples were collected sterilely from 14 breastfeeding mothers between April 1 - July 31 2020 from the Neonatal Care Unit and the Laboratory of Molecular Virology of Turin, Italy. Breast milk was collected via pump or manually, either at home or in the hospital. Mothers were diagnosed with SARS-CoV-2 via RT-PCR assay of nasal and pharyngeal swabs. Newborn follow-up was performed during the first month of life or until the finding of 2 sequential negative swabs. Milk samples were analyzed for presence of SARS-CoV-2 RNA via RT-PCR. Positive control was healthy breast milk with exogenous SARS-CoV-2 plasmid added. 13 of 14 milk samples were negative for SARS-CoV-2 RNA. The single positive case is thought to be due to a rare viral shedding event, or potential specimen contamination. 13 of 14 newborns were exclusively breastfed. Although 4 neonates tested positive in their first 48 hours of life, all were negative by 6 weeks. The authors conclude that breastfeeding is safe for SARS-CoV-2 positive mothers, and breast milk does not represent a viable vector for viral transmission.	Breast milk samples from 14 SARS-CoV-2 positive mothers in Italy were evaluated as possible vehicles for infant transmission. The authors find no conclusive evidence that breastfeeding exposes newborns to additional SARS-CoV-2 risk.	Bertino E, Moro GE, Renzi GD, et al. Detection of SARS-CoV-2 in Milk From COVID-19 Positive Mothers and Follow-Up of Their Infants. Frontiers in Pediatrics. 2020;8. doi:10.3389/fped.2020.597699.
COVID-19; pediatric; surgery; guidelines; India	27-Oct-20	Pediatric Surgery in India amidst the COVID -19 pandemic - Best practice guidelines from Indian Association of Pediatric Surgeons	Journal of Indian Association of Pediatric Surgeons	Article	The authors discuss the best practice guidelines for pediatric surgery in India during the COVID-19 pandemic, from the Indian Association of Pediatric Surgeons. Hospital guidelines should be followed for admission and infection control measures, PPE use, and COVID-19 testing. All pediatric patients admitted for surgery should be tested for SARS-CoV-2, and detailed history and contact tracing should be done for the parents. Inpatient pregnant women should also be tested. Surgery should be performed only if delaying the surgery will increase morbidity, increase the chance of later hospital admission, or increase chances of complication later on. All confirmed and suspected COVID-19 patients should be referred to a COVID-19-designated treatment center. Due to concerns regarding vertical (and possibly trans-placental and in utero) transmission, all newborns should be treated with precautions. Surgical neonates should be provided expressed breast milk from their mothers when feasible, to provide immunity. Rooming-in and kangaroo care should be considered as early as possible. Masking and hand hygiene should be followed, particularly if a patient's mother is suspected to be infected. Minimal post-operative hospital stay should be planned.	The authors discuss the best practice guidelines for pediatric surgery in India during the COVID-19 pandemic, from the Indian Association of Pediatric Surgeons. Hospital guidelines should be followed for admission and infection control policies, PPE use, and COVID-19 testing. The authors recommend that surgical neonates be provided expressed breast milk from their mothers when feasible, to provide immunity.	Sharma S, Saha S. Pediatric Surgery in India amidst the Covid -19 pandemic - best practice guidelines from Indian Association of Pediatric Surgeons. J Indian Assoc Pediatr Surg. 2020;25(6):343-348. doi:10.4103/jiaps.JIAPS_288_20.
Neonate, viral shedding, high viral load, nasopharynx, stool, Netherlands	27-Oct-20	Case Report of a Neonate with High Viral SARSCoV-2 Loads and Long-term Virus Shedding	Journal of Infection and Public Health	Case Report	The authors present a case of a 7-day-old neonate who was hospitalized in the Netherlands with COVID-19 and had a high viral load of SARS-CoV-2. The neonate had been delivered vaginally at term after an uneventful pregnancy and was breastfed. He presented to the hospital with fever, lethargy, and apnea but had no respiratory or gastro-intestinal symptoms. He subsequently tested positive for SARS-CoV-2 RNA with an exceptionally high viral load in nasopharyngeal swab and stool. However, no SARS-CoV-2 RNA was found in urine and cerebrospinal fluid. Furthermore, his father was asymptomatic but had detectable SARS-CoV-2 RNA while his mother tested	This case report showed a neonate with a high viral load of SARS-CoV-2 in nasopharyngeal secretions and stool swabs with prolonged viral shedding. The neonate recovered completely despite the high viral load, and his mother was unaffected.	Slaats MA, Versteylen M, Gast KB, et al. Case report of a neonate with high viral SARSCoV-2 loads and long-term virus shedding. Journal of Infection and Public Health. 2020.

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					negative. Expressed breast milk was also tested and returned negative for SARS-CoV-2. However, two maternity nurses tested positive for SARS-CoV-2 and developed symptoms after caring for the patient for one day. The neonate improved clinically after antibiotic treatment for possible pyelonephritis and was subsequently discharged 6 days after admission. Of note, SARS-CoV-2 RNA was detectable in the neonate's nasopharynx until day 19 and in stool until day 42 after symptom onset.		doi:10.1016/j.jiph.2020.10.013
Brazil, breastfeeding, COVID-19, SARS-CoV-2, continuity of care	26-Oct-20	Nursing actions in human milk banks in times of COVID-19	Revista Brasileira de Enfermagem (REBEn) Brazilian Journal of Nursing	Original Research	This qualitative descriptive study analyzed the actions of Human Milk Bank (HMB) coordinators in Brazil that promoted the continuity of breastfeeding in the COVID-19 pandemic. Data was collected from 5 HMB coordinators through interviews between March – April 2020. The following themes emerged: the use of digital media to educate patients, promoting breastfeeding in the face of a pandemic, the necessity of immediate post-partum education while in the hospital, and the importance of familial support. The authors describe ways in which coordinators reorganized procedures in face of the pandemic. Some nurses provided breastfeeding consultation via a Facebook page to clear up doubts and give guidance. Other strategies include video referrals, WhatsApp messaging, text messaging, and internet referrals. Action plans to promote breastfeeding during the pandemic are described, including guidance at hospital discharge related to breastfeeding and newborn care, education around avoiding the use of formula, bottles, or pacifiers, and encouraging mothers to exercise their right to breastfeed in public spaces.	This study surveyed Human Milk Bank coordinators in Brazil on actions taken to promote breastfeeding continuity during the COVID-19 pandemic. The following themes emerged: use of digital media to educate patients, promoting breastfeeding in the face of a pandemic, the necessity of immediate post-partum education while in the hospital, and the importance of familial support.	Marchiori GRS, Alves VH, Pereira AV, et al. Nursing actions in human milk banks in times of COVID-19. Rev Bras Enferm. 2020;73(suppl 2):e20200381. Published 2020 Oct 26. doi:10.1590/0034-7167-2020-0381
COVID-19; Corona Virus; Guideline; Pregnancy	26-Oct-20	An Overview on Guidelines on COVID-19 Virus and Natural and Assisted Reproductive Techniques Pregnancies	International Journal of Fertility & Sterility	Review Article	This article reviews international guidelines for the care of pregnant women during the COVID-19 pandemic. The authors specifically mention patients who have undergone assisted reproductive techniques [although they discuss no unique guidelines for this population]. Reducing the number of face-to-face visits and screening all patients for COVID-19 symptoms and exposure before prenatal visits are recommended. Monitoring for domestic violence and mental health concerns is recommended at all appointments. Outpatient monitoring with a 14-day self-quarantine is suitable for infected women with mild or no symptoms. Pregnant patients with moderate to severe COVID-19 should receive inpatient management, with a minimum target oxygen saturation of 92-95%. For febrile patients, non-COVID-19 causes of fever must be considered. Thrombo-embolic prophylaxis is recommended for most pregnant women hospitalized for COVID-19, and it is important to monitor fluid intake and output, maintain fluid and electrolyte balance, and prevent fluid overload in such patients. In critical illness, cortico-steroid administration should be based on the decision of a multi-disciplinary team (MDT). Mild or asymptomatic COVID-19 is not itself an indication for delivery or for C-section. In critically ill pregnant women, an individualized decision should be made about delivery timing by the MDT. General anesthesia for patients with COVID-19 should be avoided when possible. Delayed cord clamping is not contra-indicated with COVID-19, and some guidelines encourage skin-to-skin contact. The authors recommend that infants born to infected mothers be tested for COVID-19 and separated	This article reviews international guidelines for the care of pregnant women during the COVID-19 pandemic, including patients who have undergone assisted reproductive techniques.	Pirjani R, Rabiei M, Abiri A, Moini A. An Overview on Guidelines on COVID-19 Virus and Natural and Assisted Reproductive Techniques Pregnancies. Int J Fertil Steril. 2020 Oct;14(3):264-271. doi: 10.22074/IJFS.2020.46230. Epub 2020 Oct 12. PMID: 33098398; PMCID: PMC7604706.

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					from other neonates. Breastfeeding, with hand hygiene and face masks, is encouraged.		
Breast milk, breastfeeding, neonates, infants, immunity, IgA, IgG, IgM, antibodies, USA	26-Oct-20	Robust and specific secretory IgA against SARS-CoV-2 detected in human milk	iScience	Article	The SARS-CoV-2 immune response in human milk has not yet been examined, though protecting infants and young children from COVID-19 is critical for limiting community transmission and preventing serious illness. This study analyzed breast milk samples from 15 donors in the US previously infected with COVID-19, 3-4 weeks after symptoms had decreased and tested for antibody (Ab) binding to the SARS-CoV-2 Spike protein. All samples exhibited significant Immunoglobulin (Ig)-A reactivity to the full Spike, while 80% showed significant IgA and secretory Ab binding to the receptor binding domain (RBD), indicative of a dynamic immune response. Additionally, 67% of samples showed IgG and/or IgM binding to RBD. IgA and secretory Ab titers were highly correlated, indicating most IgA to be secretory IgA. Overall, these data indicate that a robust IgA-dominant immune response in human milk after infection should be expected in a significant majority of mothers. The authors point to the possibility of using extracted milk Ab as a COVID-19 therapy, as it is unique to the IgG-dominant convalescent plasma being tested currently, and a lower dose of Ab would likely be needed for efficacy. A much larger sample size and long-term follow-up study is needed to better understand the time-course of SARS-CoV-2 immunity in milk, as well as whether a typical response is truly protective for breastfed infants.	This report details the findings regarding SARS-CoV-2-reactive Immunoglobulin (Ig)-A, IgG, IgM, total secretory antibodies in 15 breast milk samples obtained from donors in the US previously infected with COVID-19, 3-4 weeks after symptoms had decreased. Results show a snapshot of a dynamic immune response in human milk, which may have implications for the therapeutic use of extracted milk antibodies to treat COVID-19 and raises questions about possible protective effects for breastfed infants.	Fox A, Marino J, Amanat F, Krammer F, et al. Robust and specific secretory IgA against SARS-CoV-2 detected in human milk. ISCIENCE. 2020. doi: https://doi.org/10.1016/j.isci.2020.101735.
Breastfeeding, infant, guidelines	26-Oct-20	Best Practices for COVID-19–Positive or Exposed Mothers—Breastfeeding and Pumping Milk	JAMA Pediatrics	Original Research	The authors of this article provide breastfeeding guidelines for mothers diagnosed with COVID-19. Authors stated tha experts do not know for certain if mothers with COVID-10 can spread the virus to their infants through breastmilk, but it is unlikely based on current information. Women who have had COVID-19 have high amounts of antibodies to the virus in their breast milk, which coat the inside of infants' noses and mouths, helping to block infection. Two sets of guidelines were outlined: a) if a breastfeeding mother has tested positive for COVID-19 and b) if a woman is breastfeeding and has been exposed to/is at high risk of contracting the virus. For the first instance, the authors recommend washing hands before and after handling the infant, to wear a mask during breastfeeding or pumping, and if possible, having someone who is not infected feed the infant pumped breast milk. For the second scenario, the authors recommend immediately changing clothes upon returning home, working with supervisors to limit high-risk situations, and isolating from the infant while proving milk if the infant has risk factors. The authors recognize that this advice may change as more information is discovered, but for now they state that protecting breastfeeding and breast milk is best.	This article gives specific breastfeeding guidelines a) if a breastfeeding mother has tested positive for COVID-19 and b) if a woman is breastfeeding and has been exposed to/is at high risk of contracting the virus.	Sullivan SE, Thompson LA. Best Practices for COVID-19–Positive or Exposed Mothers—Breastfeeding and Pumping Milk. JAMA Pediatr. Published online October 26, 2020. doi:10.1001/jamapediatrics.2020.3341
Breast feeding, lactation, advocacy, equity, infants	24-Oct-20	Breastfeeding Support in the Time of COVID-19	Journal of Perinatal and Neonatal Nursing	Perspective	In this article, the author summarizes current recommendations on breast feeding for women infected with COVID-19 from expert consensus groups including the WHO, CDC, and American Academy of Pediatrics. All of the recommendations support the option of breast feeding with proper infectious control precautions, and warn against the harms of interrupted breast feeding such as decreased infant protection against infectious disease, reduced access to safe infant feeding alternatives during an	The author summarizes current expert recommendations on breast feeding for confirmed COVID-19 positive mothers, and advocates for access to lactation support services and clear, consistent	Demirci JR. Breastfeeding Support in the Time of COVID-19. J Perinat Neonatal Nurs. 2020 Oct/Dec;34(4):297-299. doi:

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					emergency (eg. formula shortages), overburdening of an already overwhelmed healthcare system to care for separated infants, and negative impacts on maternal physical and mental health from separation. The author feels that it is an ethical and professional obligation of health providers to ensure that all breast/chest feeding families have equitable access to human milk and high-quality, low-cost, easily accessible remote lactation support options. In addition, the author poses that healthcare organizations and providers have a responsibility to disseminate clear and consistent communication regarding the safety and importance of human milk and breast/chest feeding during a pandemic and actively work to dismantle the spread of misinformation.	communication about breast feeding during the pandemic.	10.1097/JPN.0000000000000521.
Neonates, clinical characteristics, infection, outcomes, symptoms, meta-analysis	24-Oct-20	Characterization of neonates born to mothers with SARS-CoV-2 infection: review and meta-analysis	Pediatrics & Neonatology	Review Article	The authors describe the clinical characteristics and outcomes of neonates born to mothers with SARS-CoV-2 infection. They performed a systematic literature search to identify published reports, which investigated neonates born to SARS-CoV-2 positive mothers using PubMed, Google Scholar, and Web of Science up to June 6, 2020. They analyzed 32 peer-reviewed studies involving 261 neonates born to 258 mothers, predominantly from China (n=19). The results showed that most neonates (80.4%) born to infected mothers had no clinical abnormalities and symptoms in infected neonates were mostly mild. The most commonly described symptoms were dyspnea in 11 of 26 neonates (42.3%) and fever in 9 of 47 neonates (19.1%). Of the 120 neonates tested for SARS-CoV-2, 12 (10%) neonates showed positive test results (95% CI 0.066 to 0.190); however, swabs from vaginal secretions, breast milk, cord blood, and placenta were negative. Furthermore, 60 of 130 (46.2%) neonates were admitted to the NICU for immediate isolation or intensive care treatment, and 132 of 160 (82.5%) neonates were discharged from the hospital.	The authors observed that most neonates born to SARS-CoV-2 infected mothers had a mild clinical course or were unaffected by the infection, suggesting that the risk of vertical transmission is low.	Neef V, Buxmann H, Rabenau HF, Zacharowski K, Raimann FJ. Characterization of neonates born to mothers with SARS-CoV-2 infection: review and meta-analysis. Pediatrics & Neonatology. 2020. doi:10.1016/j.pedneo.2020.10.001
COVID-19; SARS-Co-2; antenatal stress; cortisol; neonate; physiological stress; pregnancy; prenatal stress; psychological well-bieng	23-Oct-20	The COVID-19 Pandemic Can Impact Perinatal Mental Health and the Health of the Offspring	Behavioral Sciences	Editorial	The COVID-19 outbreak represents a massive source of stress for women and their infants during the perinatal period. This editorial briefly describes the short- and long-term detrimental effects of the COVID-19 pandemic on the mental health of pregnant women. An evolutionary perspective suggests that an environment with high levels of stress can prepare the developing fetus to adapt to the extreme circumstances that the child will be exposed to after their birth. Hence, high exposure to stress may not only affect the mental health of the pregnant woman, but may also impact the development of her child. Sources of increased maternal stress include isolation, limited movement, economic difficulties, work disruptions, increased childcare burden, heightened risk of intimate partner violence, reduced antenatal and postnatal appointments, visitor restrictions during delivery, and changes associated with breastfeeding recommendations. The authors recommend universal screening among pregnant women for mental health issues at every stage of pregnancy and postpartum. The absence of validated psychological measures to assess pandemic-related stress among pregnant women has resulted in the development of new high-standard and cross-cultural measures. Wide-reaching projects focusing on the psychological impact of the COVID-19 pandemic on pregnancy are described, including the COVID-19 and Perinatal Experiences Study. Future research	This editorial briefly describes the short- and long-term detrimental effects of the COVID-19 pandemic on the mental health of pregnant women and the subsequent impact of maternal stress on fetal development. The authors describe current efforts to assess the psychological impact of the pandemic on pregnant women and provide recommendations for further study.	Caparros-Gonzalez RA, Ganho-Ávila A, Torre-Luque A. The COVID-19 Pandemic Can Impact Perinatal Mental Health and the Health of the Offspring. Behav Sci (Basel). 2020;10(11):E162. Published 2020 Oct 23. doi:10.3390/bs10110162

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					efforts should prioritize identifying protective and risk factors and to develop interventions for maternal mental health during the COVID-19 pandemic.		
COVID-19; SARS-CoV-2; offspring; pregnancy; prevention; treatment	23-Oct-20	Novel Coronavirus SARS-CoV-2 (COVID-19) and Pregnancy: A hypothetical view [Free Access to Abstract Only]	Endocrine, Metabolic, and Immune Disorders Drug Targets	Review	This review explores the transmission, severity, and complications of SARS-CoV-2 infection during pregnancy. SARS-CoV-2 infection during early pregnancy might increase the risk of stress, panic, and anxiety. The author hypothesizes that SARS-CoV-2 infection and increased maternal stress may disturb the maternal immune system and cause neuro-developmental disturbances in fetal development, depending on the infection's severity and intensity. Evidence of vertical transmission of the virus is limited. The author offers several control strategies for infection during pregnancy, including treatments (medicinal plants, antiviral therapy, cellular therapy, and immunotherapy), nutrition uptake, prevention, and other recommendations. The author asserts that maintaining maternal safety during pregnancy, delivery, and breastfeeding is important for healthy infant development, and therefore urges international and national organizations to use data and insights from this pandemic to prepare for future pandemics and times of disaster.	This review explores the transmission, severity, complications of SARS-CoV-2 infection during pregnancy. The author asserts that maintaining maternal safety during pregnancy, delivery, and breastfeeding is important for healthy infant development, and offers several recommendations for control of SARS-CoV-2 infection during pregnancy.	Ahmed Rg. Novel Coronavirus SARS-CoV-2 (COVID-19) and Pregnancy: A hypothetical view. Endocr Metab Immune Disord Drug Targets. 2020; doi:10.2174/1871530320666201023124843.
breastfeeding, breast milk, postpartum, neonatal, proteomics, lipidomic, metabolomics	23-Oct-20	Omics study reveals abnormal alterations of breastmilk proteins and metabolites in puerperant women with COVID-19	Signal Transduction and Targeted Therapy	Letter to the Editor	Alterations to breast milk components due to viral infection reflect physiological changes in mothers and also affect neonatal immunity and metabolism. These authors discuss whether breast milk production is affected by COVID-19, and whether breastfeeding is safe when mothers have COVID-19. They collected colostrum samples within 3 days after delivery from 4 women with COVID-19 and 2 healthy postpartum women, all of whom delivered by C-section. All symptoms in the women with COVID-19 were mild. Serological and viral RNA tests were negative for SARS-CoV-2 in all milk samples. The authors then used proteomics, lipidomics, and metabolomics analyses to profile the milk samples. Lipid profiles were not significantly different between COVID-19 and healthy samples. Testing indicated mild alterations of milk proteins in COVID-19 patients. The alterations occurred in proteins involved in immune response, inflammation, and metabolism, and most of these proteins were down-regulated with COVID-19. Metabolic changes in the COVID-19 samples included alterations in aminoacyl-tRNA biosynthesis, tryptophan metabolism, and aromatic amino acid metabolism. The alterations of milk components may be related to mothers' physiological responses to COVID-19, or caused by a SARS-CoV-2-mediated impact on milk production and/or secretion by mammary glands. Additionally, COVID-19 may affect the bacterial microbiome, thereby altering the bacterial metabolites secreted in milk. The authors suggest that feeding such breast milk with deficiency of immune-related components may not be conducive to establishing immune defense in the early life of neonates.	In this study, proteomics and metabolomics uncovered significant alterations of breast milk proteins and metabolites associated with COVID-19. The authors suggest that feeding such breast milk with deficiency of immune-related components may not be conducive to establishing immune defense in the early life of neonates.	Zhao Y, Shang Y, Ren Y, Bie Y, Qiu Y, Yuan Y, Zhao Y, Zou L, Lin SH, Zhou X. Omics study reveals abnormal alterations of breastmilk proteins and metabolites in puerperant women with COVID-19. Signal Transduct Target Ther. 2020 Oct 23;5(1):247. doi: 10.1038/s41392-020-00362-w. PMID: 33097684; PMCID: PMC7581689.
Antibodies, vertical transmission, passive immunity	22-Oct-20	Possible vertical transmission and antibodies against SARS-CoV-2 among infants born to	Journal of Medical Virology	Review	Current evidence on vertical transmission of SARS-CoV-2 and natural passive immunity among exposed newborns is limited and varies, posing a challenge for preventive interventions. This systematic review was conducted to determine the likelihood of vertical transmission among infants and whether antibodies against SARS-CoV-2 are generated among infants vertically exposed, but who tested negative for SARS-CoV-2. 33 out of 517 identified	This systematic review of literature published from December 2019 to May 2020 showed a low likelihood of vertical transmission among infants born to COVID-19 positive mothers. Of the infants vertically	Bwire GM, Njiro BJ, Mwakawanga DL, Sabas D, Sunguya BF. Possible vertical transmission and antibodies against

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		mothers with COVID-19: A living systematic review			articles (5.8%) published December 1, 2019 to May 18, 2020 met the inclusion criteria. To control for other possible modes of transmission, studies were included only if infants were not breastfed before samples were taken, the mother wore an N-95 during delivery, and the infant was immediately separated from the mother to a negative pressure room. Overall, 6.3% (13/205; 95%CI: 3.0%-9.7%) of the infants tested positive for SARS-CoV-2 at birth. 6 out 33 studies (18.8%) reported on immunoglobulin G/M (IgG/IgM) against SARS-CoV-2. IgG/IgM were detected in 90% infants (10/11; 95%CI: 73.9%-107.9%) who tested negative for SARS-CoV-2. The median antibody levels detected were 75.49AU/mL (range: 7.25AU/mL-140.32AU/mL) and 3.79AU/mL (range: 0.16AU/mL-45.83AU/mL), p = 0.0041 for IgG and IgM, respectively. These results reveal a low possibility of vertical transmission of COVID-19 and the presence of antibodies against SARS-CoV-2 among infants who tested negative for SARS-CoV-2 suggests possible passive immunity.	exposed but negative for SARS-CoV-2, 90% showed antibodies against SARS-CoV-2.	SARS-CoV-2 among infants born to mothers with COVID-19: A living systematic review. J Med Virol. 2020 Oct 22. doi: 10.1002/jmv.26622. Epub ahead of print. PMID: 33090535.
Cord blood, neonatal, vertical transmission, hematogenous spread, nasopharynx	22-Oct-20	In Utero SARS-CoV-2 Infection	Journal of the Pediatric Infectious Diseases Society	Case Report	The authors present a case of neonatal infection with viral RNA in cord blood that supports in-utero transmission of SARS-CoV-2 and provides insight into hematogenous spread from mother to fetus. The patient is a 2414-gram male delivered at 34 weeks gestation by a mother diagnosed with SARS-CoV-2 infection 14 hours before delivery. The mother presented to the hospital with cough symptoms for one-week, vaginal bleeding/cramping, and underwent C- section due to HELLP syndrome and history of prior C- section. During the hospitalization, the mother and all healthcare personnel wore appropriate PPE. The neonate was healthy, admitted to the NICU, and the mother elected not to breastfeed or provide breast milk. The infant had no contact with family members until day of life (DOL) 7 when his mother had recovered. The neonate's umbilical cord blood, nasopharyngeal swabs, urine, and placental tissue were tested for SARS-CoV-2. The results showed that the neonate's nasopharyngeal swabs were negative for SARS-CoV-2 at 24 hrs of life but positive at 49 hours. Furthermore, the authors found SARS-CoV-2 RNA in umbilical cord blood and the neonate's DOL 2 urine. However, both serum and plasma from cord blood were seronegative for IgM and IgG antibodies against SARS-CoV-2. Also, placental tissue was negative for SARS-CoV-2 RNA. The infant continued to be asymptomatic, was discharged on DOL 8, and remained healthy through the first month of life.	This study's findings showed the presence of SARS-CoV-2 RNA in umbilical cord blood and in newborn urine and nasopharynx. The authors suggest that these findings provide evidence of in-utero hematogenous transmission of SARS-CoV-2 and that newborn nasopharyngeal secretions may not contain detectable virus until after 48 hours.	Von Kohorn I, Stein SR, Shikani BT, et al. In Utero SARS-CoV-2 Infection [published online, 2020 Oct 22]. J Pediatric Infect Dis Soc. 2020;piaa127. doi:10.1093/jpids/piaa127
Clinical manifestations, human coronaviruses, children	22-Oct-20	Human coronaviruses SARS-CoV, MERS-CoV, and SARS-CoV-2 in children	Journal of Pediatric Nursing	Article	This article reviews the present understanding of SARS-CoV-2 in comparison with MERS-CoV and SARS-CoV in terms of prognosis, epidemiology, prevention, transmission, and treatment in children and compares manifestations of COVID-19 in the pediatric and adult population. Current reports suggest that children are just as affected by SARS-CoV-2 as adults but with milder symptoms, lower disease severity, and lower mortality [no age-specific data for children were discussed]. Pediatric COVID-19 patients usually have a better prognosis; however, underlying conditions like malnutrition, congenital heart disease, and hydronephrosis might make children susceptible to severe COVID-19. Lymphocyte counts in adult COVID-19 patients decrease significantly, while they increase beyond the normal range in most children. COVID-19 may cause an inflammatory reaction in	This article reviews the present understanding of SARS-CoV-2 in children in terms of prognosis, epidemiology, prevention, transmission, and treatment. These are presented in comparison with findings in the adult population and characteristics of other coronaviruses (SARS-CoV and MERS-CoV).	Aleebrahim-Dehkordi E, Soveyzi F, Deravi N, et al.. Humancoronaviruses SARS-CoV, MERS-CoV, and SARS-CoV-2 in children. J Pediatr Nurs. 2020. https://doi.org/10.1016/j.pedn.2020.10.020

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					some children known as MIS-C, appearing 2-4 weeks after infection and affecting the heart, lungs, kidneys, brain, skin, eyes, or gastro-intestinal tract. Although similar to Kawasaki disease, it appears to be a distinct syndrome. While there is documented data about the vertical transmission of SARS-CoV and MERS-CoV, there is not enough evidence to make conclusions about the vertical transmission of SARS-CoV-2. Cited studies that tested for SARS-CoV-2 RNA in the breast milk, amniotic fluid, and umbilical cords of infected mothers produced negative results in all samples.		
Germany, breast milk, breastfeeding, pasteurization	21-Oct-20	Pasteurization Inactivates SARS-CoV-2 Spiked Breast Milk	Pediatrics	Research Brief	These authors raise concerns of possible SARS-CoV-2 transmission via breast milk, but they also acknowledge the significant benefits of breast milk and breastfeeding. Therefore, they explored the inactivation of SARS-CoV-2 in human milk by pasteurization, to reduce the risk of viral transmission while preserving the milk's beneficial properties. Milk samples were obtained from 5 healthy human donors in Germany. The authors spiked 5 different SARS-CoV-2 isolates from Germany, France and the Netherlands into breast milk samples or medium controls, and either incubated them for 30 minutes at room temperature, or performed standard holder pasteurization at 63°C. Residual infectivity was defined as tissue culture infectious dose 50 (TCID50) upon titration. All 5 SARS-CoV-2 isolates remained infectious in the milk samples that were incubated at room temperature. Of note, in each milk sample and independent of the viral strain, there was a 40.9 - 92.8% decrease of viral titers compared to the medium control. The authors postulate that this might indicate an anti-viral property of milk. With pasteurization, no residual infectivity was detected in any of the samples. Thus, human breast milk potentially containing infectious SARS-CoV-2 can be efficiently inactivated using standard holder pasteurization.	These authors explored the inactivation of SARS-CoV-2 in human milk by pasteurization, to reduce the risk of viral transmission while preserving the milk's beneficial properties. They found that human breast milk potentially containing infectious SARS-CoV-2 can be efficiently inactivated using standard holder pasteurization.	Conzelmann C, Groß R, Meister TL, Todt D, Krawczyk A, Dittmer U, Stenger S, Münch J, Steinmann E, Müller JA, Pfaender S. Pasteurization Inactivates SARS-CoV-2 Spiked Breast Milk. Pediatrics. 2020 Oct 21:e2020031690. doi: 10.1542/peds.2020-031690. Epub ahead of print. PMID: 33087554.
Breast milk, RT PCR, Holder pasteurization	21-Oct-20	Bench Research, Human Milk, and SARS-CoV-2	Pediatrics	Commentary	In this commentary article, the authors discuss a study published by Conzelmann et al. in the October 2020 issue of Pediatrics, which examined whether Holder pasteurized human milk (milk heated to 62.5 degrees Celsius for 30 minutes) can inactivate SARS-CoV-2. Conzelmann et al. "spiked" expressed breast milk samples (n=5) with different SARS-CoV-2 isolates, conducted Holder pasteurization, and assessed viral infectivity in tissue culture. Holder pasteurization effectively inactivated SARS-CoV-2. Viral titer decreased by 40.9-92.8% in human milk compared to the control medium, confirming human milk's unique antiviral properties. The authors of this commentary note that while these findings are important, SARS-CoV-2 is unlikely to infect human milk, as only 5% of mammary gland epithelial cells express ACE2, the cellular receptor for SARS-CoV-2, and none of these cells co-express ACE2 with SARS-CoV-2 co-receptors. The presence of SARS-CoV-2 RNA in breast milk does not indicate infectivity, as viral RNA isolated from breast milk in several studies was unable to replicate by established culture methods. The authors conclude that while Holder pasteurization is important in human donor milk during the pandemic, it also reduces antibodies directed against SARS-CoV-2, and SARS-CoV-2-infected mothers should continue directly breastfeeding their infants if well enough to do so.	This commentary discusses a recent study by Conzelmann et al., which found that Holder pasteurization successfully inactivated SARS-CoV-2. The authors note that while Holder pasteurization is useful for human donor milk, SARS-CoV-2-infected mothers should continue directly breastfeeding their infants, as SARS-CoV-2 is unlikely to successfully infect breast milk.	Furman L and Noble L. Bench Research, Human Milk, and SARS-CoV-2. Pediatrics. 2020; doi: 10.1542/peds.2020-033852
COVID-19, women,	20-Oct-20	Experiences of Women Who	medRxiv	Preprint	The authors conducted a study to describe the experiences of women who gave birth in a US hospital during the COVID-19 pandemic between March	Findings from this cross-sectional survey of women who gave birth	Mollard E, Wittmaack, A. Experiences of

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childbirth, experiences, anxiety, hypertension, depression, United States		Gave Birth in US Hospitals During the COVID-19 Pandemic		(not peer-reviewed)	and July 2020 and to identify characteristics associated with a COVID-19 diagnosis. They surveyed 885 women aged ≥18 years regarding their delivery experiences via social media (Facebook and Instagram). Their results showed that 22.5% of women reported hypertension, 33.8% reported anxiety, 18.6% reported depression, and 1.13% reported being diagnosed with COVID-19. Also, 61% of women reported inadequate support for childbirth, and 20.5% reported that they did not feel safe giving birth in the hospital. Of note, women diagnosed with COVID-19 were more likely to be of Asian race, have a C-section, not have a birth partner present, and discontinue breastfeeding < 6 weeks.	during the early phase of the COVID-19 pandemic in the US showed that women reported high levels of anxiety, depression, and hypertension. Also, most women reported inadequate support in labor, and a relatively high number reported that they did not feel safe giving birth in a hospital during the COVID-19 pandemic.	women who gave birth in US hospitals during the COVID-19 pandemic. [published online, 2020 Oct 20]. medRxiv. 2020. doi: https://doi.org/10.1101/2020.10.15.20213504
Pregnancy, breastfeeding, postpartum, maternal health, mental health, lockdown, Italy	20-Oct-20	The COVID-ASSESS Dataset - COVID19 related Anxiety and StreSs in prEgnancy, poSt-partum and breaStfeeding during lockdown in Italy	Data in Brief	Data Article	In order to examine the mental health and COVID-19 related concerns of women who were either pregnant, breastfeeding or caring for newborns or infants during lockdown in Italy, the authors conducted a cross-sectional online survey known as the COVID-ASSESS questionnaire. Data was collected in 2 phases between March - May 2020. Eligible participants (n=2448) were over 18 years old and either currently pregnant (1307; 53%) or gave birth after January 1st, 2019 and in postpartum or breastfeeding period (1141; 47%). Data were collected on sociodemographic and clinical information (previous losses, history of psychological disorders), birth expectations before and after COVID-19, concerns related to the pandemic, perception of media and health professionals' information and communication on COVID-19, and psychopathological assessment (anxiety, post-traumatic stress and general psychopathology). The authors only report the sociodemographic and clinical characteristics of the sample but provide open access to the entire raw dataset. These data are free to use for scientific research, provided that research proposals are shared and discussed beforehand with the authors.	This article provides a general description and access to raw data of an online survey conducted in Italy of the mental health and COVID-19 related concerns of women who were either pregnant, breastfeeding, or caring for newborns or infants during lockdown. The authors only report the sociodemographic and clinical characteristics of the sample but provide open access to the entire raw dataset for free use.	Ravaldi C, Vannacci A. The COVID-ASSESS dataset - COVID19 related anxiety and stress in prEgnancy, poSt-partum and breaStfeeding during lockdown in Italy. Data Brief. 2020;33:106440. doi:10.1016/j.dib.2020.106440
sexual health, reproductive health, maternal health, newborn health, COVID-19	19-Oct-20	A call to action: Documenting and sharing solutions and adaptations in sexual, reproductive, maternal and newborn health care provision during the COVID-19 pandemic	Sexual and Reproductive Health Matters	Original Article	These authors are writing on behalf of the Global Study of Maternal Health Provision during the COVID-19 Pandemic (MATCO) Solutions and Adaptations working group. Beyond the direct effects on women and newborns, the COVID-19 pandemic has caused negative indirect effects on the provision of sexual, reproductive, maternal and newborn health. The authors list several examples of these effects, including routine separation of newborns from COVID-19 positive mothers, lack of support for breastfeeding, and denial of abortion care. COVID-19 has led to challenges, but has also resulted in local, context-specific, and adapted solutions. However, the authors state that these innovative solutions must be better documented and shared internationally. They discuss 3 dimensions of solutions: those that allow the continuation of safe care during the COVID-19 pandemic, those that address problems created by the COVID-19 response, and those that provide better preparation and response to future emergencies. They request that anyone with solutions or ideas to share submit them on the form found at tinyurl.com/COVID19adaptations. Submitted ideas and information may be found at http://www.covidadaptations.org/	These authors are writing on behalf of the Global Study of Maternal Health Provision during the COVID-19 Pandemic (MATCO) Solutions and Adaptations working group. They state that innovative solutions to sexual, reproductive, maternal and newborn health care provision during the pandemic must be documented and shared, and they include a form and website for doing so.	Benova L, Sarkar ND, Fasehun LO, Semaan A, Affun-Adegbulu C. A call to action: Documenting and sharing solutions and adaptations in sexual, reproductive, maternal and newborn health care provision during the COVID-19 pandemic. Sex Reprod Health Matters. 2020 Oct 19:1-5. doi: 10.1080/26410397.2020.1838054. Epub ahead of print. PMID: 33073726.

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Passive immunity, vertical transmission	19-Oct-20	Passive Immunity in Newborn from SARS-CoV-2 Infected Mother	Journal of Medical Virology	Case Report	This case report discusses anti-SARS-CoV-2 passive immunity in a neonate born to an asymptomatic mother with anti-SARS-CoV-2 immunoglobulin (Ig)G and IgM. A low-risk 34-year-old woman at 37 weeks of pregnancy was admitted to an Italian hospital due to premature rupture of membranes. Serological tests showed anti-SARS-CoV-2 IgG and IgM, and nasopharyngeal swabs were positive. A healthy male neonate was vaginally delivered 26 hours after admission. Delayed cord-clamping and skin-to-skin contact were allowed, breastfeeding was encouraged with the use of hand hygiene and maternal masking, and the crib was placed almost 2 meters away from the mother. The neonate was negative for SARS-CoV-2 via nasopharyngeal swab tests performed at Days 2, 3, and 5 after birth; however, anti-SARS-CoV-2 IgG antibodies were present in serum, indicating passive immunity delivered from the mother to the neonate. The infant was negative for these antibodies at 6 weeks of age. The authors state that this case suggests trans-placental passage of specific antibodies from the mother to the fetus. The authors urge more expansive SARS-CoV-2 screening in pregnant women and serological tests of the placenta, amniotic fluid, cord blood, breast milk, and neonatal serum in cases of positive results.	This case report discusses anti-SARS-CoV-2 passive immunity in an uninfected neonate born to an asymptomatic mother, suggesting trans-placental passage of specific antibodies from the mother to the fetus. The authors urge broader SARS-CoV-2 screening in pregnant women and serological tests of tissues involved in fetal and neonatal development.	Cavaliere AF, Marchi L, Aquilini D, et al. Passive Immunity in Newborn from SARS-CoV-2 Infected Mother. J Med Virol. 2020;10.1002/jmv.26609. doi:10.1002/jmv.26609
Breastfeeding, neonates, NICU, breast milk, USA	19-Oct-20	Longitudinal Survey of COVID-19 Burden and Related Policies in U.S. Neonatal Intensive Care Units	American Journal of Perinatology	Short Communication	The authors performed a series of cross-sectional surveys sent to 368 neonatal ICUs (NICUs) in the US across 4 periods between March and August 2020, assessing the burden of COVID-19 and policies introduced (i.e. infant isolation from mothers with suspected or confirmed COVID-19, breastfeeding approaches, and universal screening of expectant mothers). In total, 266 unique NICUs responded with 69 responding to all 4 surveys, 50 to 3, 53 to 2, and 94 to 1 survey. Confirmed COVID-19 in NICU-admitted infants was rare, with prevalence rising from 0.03% to 0.44% across the 4 survey rounds. A minority of sites allowed mothers with suspected or confirmed COVID-19 to breastfeed directly; 27 (17%) and 34 (21%) in rounds 2 and 3, respectively, but by round 4, this had increased to 69 (47%). For the last 3 surveys, use of any maternal breastmilk (expressed and direct) was consistent (88-89%) but direct breastfeeding increased while feeding with expressed breast milk decreased. Sites reported a variety of policies regarding infant isolation, with physical isolation from the mother for 14 days and discharge to an alternate caregiver the most common. However, the number of facilities allowing infants to room in with mothers increased from 23 (14%) to 74 (50%). These results indicate that the secondary effects of maternal COVID-19, even when asymptomatic, could substantially affect maternal–infant bonding and long-term breastfeeding success. However, changes in policies appear to have evolved in response to novel data and guidelines.	This longitudinal survey of neonatal ICUs across the US found a low burden of COVID-19, but significant secondary effects to maternal-infant bonding and breastfeeding success. Changes in policies over time allowing more mothers with COVID-19 to room in and directly breastfeed their infants appear to have evolved in response to novel data and guideline development.	Ahmad KA, Darcy-Mahoney A, Kelleher AS, Ellsbury DL, Tolia VN, Clark RH. Longitudinal Survey of COVID-19 Burden and Related Policies in U.S. Neonatal Intensive Care Units. Am J Perinatol. 2020 Oct 19. doi: 10.1055/s-0040-1718944. Epub ahead of print. PMID: 33075846.
Vertical transmission, breast milk, perinatal outcomes, neonatal	19-Oct-20	Clinical manifestation, outcomes in pregnant women with COVID-19 and the possibility of	Journal of Perinatal Medicine	Systematic Review	Systematic reviews of perinatal outcomes associated with COVID-19 have been done; however, as of June, 2020 none included the risk of neonatal infection or indicators such as intubation and ICU admission. This systematic review included 36 studies published between 1 December 2019 - 10 June, 2020 to investigate the clinical manifestations, laboratory tests, clinical outcomes, and perinatal outcomes of pregnant women with COVID-19 and the possibility of vertical transmission. The most common symptoms were	This systematic review of perinatal outcomes of pregnant women with COVID-19 found fever, cough, shortness of breath and dyspnea to be the most common symptoms, with typical imaging manifestations. Risk of intubation,	Han Y, Ma H, Suo M, et al. Clinical manifestation, outcomes in pregnant women with COVID-19 and the possibility of vertical transmission: a

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outcomes, pregnancy		vertical transmission: a systematic review of the current data			fever (64.78%), cough (59.81%) and shortness of breath or dyspnea (23.86%). 88.73% of patients demonstrated typical COVID-19 signs on chest CT or X-ray. Intubation was carried out in 35.87% of patients, and 4.95% of mothers were admitted to the ICU, where the rate of maternal death was <0.01% and that of premature delivery was 25.32%. The rate of low birth weight (<2,500 g) was 30.65% and that of Neonatal ICU (NICU) admission was 24.41%. Positive nasopharyngeal swabs or sputum from newborns was <0.01% and the rate of SARS-CoV-2 positivity in cord blood, amniotic fluid, cervical or vaginal secretions and breast milk was zero; 6 of the included studies specifically tested breast milk for SARS-CoV-2. These results indicate vertical transmission from mother to child is unlikely.	ICU admission, and premature delivery were high. No evidence of SARS-CoV-2 presence in cord blood, amniotic fluid, cervical or vaginal secretions and breast milk was found, indicating vertical transmission from mother to child is unlikely.	systematic review of the current data. J Perinat Med. 2020 Oct 19. doi: 10.1515/jpm-2020-0431. Epub ahead of print. PMID: 33068387.
Neonate, infant, clinical features, outcomes, vertical transmission, breast feeding	16-Oct-20	COVID-19 Pandemic and Neonatal Health: What We Know so Far?	Kathmandu University Medical Journal	Original Article	This paper outlines published evidence regarding the effect of COVID-19 on neonatal health and health care. The authors review the epidemiology, clinical features, and diagnosis of COVID-19 in neonates as well as the management of neonates born to COVID-19 women. They conclude that most studies suggest no evidence of vertical transmission of COVID-19. Neonates and children are at risk of COVID-19 and have distinctive clinical features compared with adults. However, the clinical features are generally milder with fewer severe outcomes. Despite the possibility of intra-uterine infection of COVID-19, the authors feel that direct evidence is still lacking, and more comprehensive studies are needed for validation of vertical transmission. They also report that SARS-CoV-2 is not transmitted through breast milk and therefore recommend the promotion of breast feeding. The authors urge health care providers to continue preventative programs, curative care, vaccination, and telemedicine care as the minimum health care services for neonates during the COVID-19 pandemic.	The authors summarize current evidence on COVID-19 in neonates and conclude that the disease course is generally milder than in adults, vertical transmission is unlikely, and breast feeding should be encouraged.	Bhandari TR, Dangal G. COVID-19 Pandemic and Neonatal Health: What We Know so Far? Kathmandu Univ Med J. 2020;COVID-19 Special Issue 70(2):78-82.
Pregnancy, lactation, medications, safety, Italy	15-Oct-20	Medications prescriptions in COVID-19 pregnant and lactating women: the Bergamo Teratology Information Service experience during COVID-19 outbreak in Italy	Journal of Perinatal Medicine	Original article	The aim of this report was to describe the use of Bergamo Teratology Information Service (TIS), a 24-h service that provides information on pharmacotherapy during pregnancy and breastfeeding, in supporting public and health care personnel on medication use in suspected or confirmed COVID-19 pregnant and lactating patients during the COVID-19 outbreak in Italy. All Bergamo TIS requests were retrospectively evaluated from March 1-April 15, 2020. Type of medication, safety profile, and compatibility with pregnancy and lactation were reported, as well as age, gestational age, and time of lactation. The service received calls concerning 48 patients with suspected (20/48; 41%) or confirmed (28/48; 59%) COVID-19. Among pregnant women, the requests of information were related to 16 drug prescriptions, all of which were considered safe for pregnant patients. Among lactating women, Bergamo TIS received information requests for 60 drug prescriptions. The authors review the available safety data on the most common medications used to treat COVID-19. Of note, they report that hydroxychloroquine and azithromycin at dosages used for COVID-19 may be considered compatible and reasonably safe in pregnancy and lactation.	The authors review safety data on medications used to treat COVID-19 in pregnancy and lactation using data from the Bergamo Teratology Information Service in Italy.	Giampreti A, Eleftheriou G, Gallo M, et al. Medications prescriptions in COVID-19 pregnant and lactating women: the Bergamo Teratology Information Service experience during COVID-19 outbreak in Italy. J Perinat Med. 2020 Oct 15. doi: 10.1515/jpm-2020-0339.
Neonatal outcomes, vertical transmission,	15-Oct-20	Synthesis and systematic review of reported	Nature Communications	Article	Under the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), the authors reviewed 176 cases of neonatal SARS-CoV-2 infections that were defined by at least one positive nasopharyngeal swab and/or the presence of specific IgM published	This article reviewed 176 cases of neonatal SARS-CoV-2 infections published between December 1st, 2019 and August 30th, 2020. They	Raschetti R, Vivanti AJ, Vauloup-Fellous C, et al. Synthesis and systematic review of

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breastfeeding, clinical features		neonatal SARS-CoV-2 infections			between December 1st, 2019 and August 30th, 2020. Their primary objective was to clarify the transmission route, clinical features, and outcomes of SARS-CoV-2 infections. Their secondary objective was to clarify the effect of mother-neonate separation and breastfeeding on the incidence of late-onset neonatal infections. In their findings, they reported that 70% and 30% of infections are due to environmental and vertical transmission, respectively and their analysis showed that 55% of infected neonates developed COVID-19; the most common symptoms were fever (44%), gastrointestinal (36%), respiratory (52%) and neurological manifestations (18%), and lung imaging was abnormal in 64% of cases. A lack of mother–neonate separation from birth is associated with late SARS-CoV-2 infection (OR=4.94, 95% CI: 1.98–13.08; adjusted OR=6.6, 95% CI: 2.6–16), while breastfeeding is not (OR=0.35, 95% CI: 0.09–1.18; adjusted OR=2.2, 95% CI: 0.7–6.5).	described the transmission route, clinical features, and outcomes of SARS-CoV-2 infection and the effect of mother-neonate separation and breastfeeding on the incidence of late-onset neonatal infections.	reported neonatal SARS-CoV-2 infections. Nat Commun. 2020 Oct 15;11(1):5164. doi: 10.1038/s41467-020-18982-9.
Children, pediatric, pandemic, pediatric inflammatory multisystem syndrome, PIMS, PIMS-TS, Kawasaki, multisystem inflammatory syndrome in children, MIS-C	15-Oct-20	COVID-19 Pandemic and Children: A Review	Journal of Pediatric Pharmacology and Therapeutics	Review Article	The authors summarize the COVID-19 epidemiology and management in pediatrics based on available data as of 28 June 2020. Most children seem to acquire infection from COVID-19 positive adults, mainly from family contact. The main infection route is from respiratory droplets, direct contact, and aerosol transmission. Emerging evidence suggests a fecal-oral transmission route and the virus's ability to infect gastro-intestinal glandular epithelial cells. Evidence for vertical transmission of the SARS-CoV-2 through the placenta and breast milk is unclear. Many children with COVID-19 are asymptomatic or mildly symptomatic, except for rare cases of MIS-C. The most common symptoms are fever (50%) and cough (38%). Shortness of breath, sore throat, rhinorrhea, conjunctivitis, fatigue, and headache are also frequently reported. Gastro-intestinal symptoms may be present with or without respiratory symptoms. The authors discuss COVID-19-related laboratory/radiologic findings and characterize typical MIS-C symptoms, which require a multi-disciplinary team effort and use of immuno-modulators. They also evaluate the current treatment modalities. For most children, supportive care at home is the main treatment. Data on the chronologic course of pediatric COVID-19 are extremely limited due to the much smaller number of symptomatic patients. Further studies are essential to inform evidence-based diagnostic and treatment guidelines.	While most SARS-CoV-2 infected children are asymptomatic or develop only mild symptoms, some children develop severe disease like MIS-C. MIS-C symptoms management requires multi-disciplinary team effort.	Rathore V, Galhotra A, Pal R, Sahu KK. COVID-19 Pandemic and Children: A Review. J Pediatr Pharmacol Ther. 2020;25(7):574-585. doi: 10.5863/1551-6776-25.7.574. PMID: 33041712; PMCID: PMC7541032.
SARS-CoV-2, breastfeeding, horizontal transmission, breastfeeding guidelines,	14-Oct-20	Breastfeeding During the Novel Coronavirus (COVID-19) pandemic: Guidelines and Challenges.	Journal of Maternal-Fetal and Neonatal Medicine	Literature Review	The author's aim is threefold: to review the current data of the transmissibility of SARS-CoV-2 through breastfeeding, to review the global guidelines on breastfeeding in women with COVID-19 infections, and to discuss challenges with respect to breastfeeding by COVID-19 positive mothers during the COVID-19 pandemic in 2020. The authors conducted a literature review from December 01, 2019 to July 15, 2020 through a PubMed search. [The total number of articles reviewed is not provided.] They briefly report on 4 infant cases (ages 1-day-old to 8-months-old) in which SARS-CoV-2 was found in breast milk [the authors do not distinguish between SARS-CoV-2 RNA or (full) virus]. They present 26 published guidelines from international agencies or specific countries with respect to breastfeeding by COVID-19 positive mothers. The large majority of these guidelines promote continued breastfeeding with respiratory and hand	The authors present literature reviews revealing only 4 cases of documented SARS-CoV-2 in breastmilk and the majority of published guidelines support continued breastfeeding with respiratory and hand hygiene without separation of mother and child.	Dimopoulou D, Triantafyllidou P, Daskalaki A, Syridou G, Papaevangelou V. Breastfeeding during the novel coronavirus (COVID-19) pandemic: guidelines and challenges. J Matern Fetal Neonatal Med. 2020 Nov 8:1-7. doi: 10.1080/14767058.2020.1838481. Epub

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					hygiene as well as no separation of mother and child. While noting the numerous benefits of breastfeeding to the mother and child, the authors also report challenges during the pandemic. For example, they note that necessary hospital cohorting of COVID-19 positive mothers in the same hospital room does not allow for rooming in of unaffected neonates and the shortage of nursing support makes on-demand breastfeeding difficult.		ahead of print. PMID: 33161802.
Infected mother, newborn, Japan	14-Oct-20	First report in Japan of a delivery of a woman with the 2019 novel coronavirus disease	The Journal of Obstetrics and Gynaecology Research	Case Report	The authors describe the first reported case of delivery of a male infant from a SARS-CoV-2 positive woman in her 20s at 38 weeks gestation in Japan. The pregnant woman was admitted to a local hospital after experiencing a watery discharge on 30 March 2020. Her body temperature during admission was 38.1°C. Premature membrane rupture was confirmed, initiating antibiotic therapy for intra-uterine infection. On March 31, her body temperature was 38.9°C and labor was induced with oxytocin. During the slow labor progress, the patient complained of an increase in nasal discharge and dysgeusia and positive RT-PCR result for SARS-CoV-2 was obtained for a nasopharyngeal mucous sample. On April 1, the patient was transferred to Kitasato University Hospital where an emergency C-section with spinal anesthesia was conducted due to an abnormal fetal heart rate pattern. The neonate was separated to prevent risk of vertical transmission and given formula milk. All SARS-CoV-2 PCR tests of nasal and oral discharges, anal swabs and blood samples of the neonate at 9 hr, 30 hr and 4 days after birth were negative. The mother was treated with lopinavir/ritonavir from 5 days after the surgery and tested negative using nasal discharge samples at 20 and 21 days. Both mother and child were discharged 23 days post birth.	The authors describe the first reported case of delivery of a infant from a SARS-CoV-2 positive woman in Japan.	Mochizuki J, Nakamura M, Iwahata S. First report in Japan of a delivery of a woman with the 2019 novel coronavirus disease. J Obstet Gynaecol Res. 2020. doi: https://doi.org/10.1111/jog.14393.
Children, adolescents, non-communicable diseases, obesity, diabetes	13-Oct-20	COVID-19, children and non-communicable diseases: translating evidence into action	Archives of Disease in Childhood	Viewpoint	There are increasing reports of MIS-C and COVID-19 complications among children and adolescents. COVID-19 carries increased risks for children with comorbidities, including obesity, immuno-suppression, respiratory conditions, diabetes, and cardiovascular disease. The recognition that non-communicable diseases (NCDs) are a massive contributor to COVID-19 mortality and severe illness across all age groups should serve to accelerate the implementation of preventive strategies for NCDs. Optimizing maternal nutrition and exclusive breast feeding can reduce the risk of fetal growth retardation and optimize growth in early infancy, which would decrease risk of NCDs; these goals should be prioritized in the response to COVID-19. Promoting healthy behaviors in adolescents and reducing risky behaviors such as smoking must be part of COVID-19 mitigation strategies. Young people and adults are at risk for mental health sequelae from the COVID-19 pandemic, and preventive strategies must be utilized. Health systems need to adapt in pandemic conditions, to ensure that the needs of children with existing NCDs are met. Response to the COVID-19 crisis must also focus on poverty and equity. Prevention and control of NCDs, especially in youth, should become effective tools to prevent drastic consequences of future pandemics.	These authors discuss the relationship between non-communicable diseases (NCDs) and COVID-19 in children and adolescents. They state that prevention and control of NCDs, especially in youth, can prevent drastic consequences of future pandemics.	Bhutta ZA, Hauerslev M, Farmer M, Lewis-Watts L. COVID-19, children and non-communicable diseases: translating evidence into action. Arch Dis Child. 2020 Oct 13:archdischild-2020-319923. doi: 10.1136/archdischild-2020-319923. Epub ahead of print. PMID: 33051217.
Vertical transmission,	13-Oct-20	Pregnancy and breastfeeding	Therapeutic Advances in	Letter	In this letter the authors provide evidence that pregnant women may be less vulnerable to severe SARS-CoV-2 infection than nonpregnant women, including an increase in hepatic synthesis of angiotensinogen, enhanced	In this letter, the authors discuss the overall protective benefits of normal pregnancy against	Bwire GM, Njiro BJ, Mwakawanga DL, Sabas D, Sunguya BF.

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ang-II, ACE2, Ang-(1-7)		during COVID-19 pandemic	Reproductive Health		ACE2 expression providing improved protection against injury, and a progressive rise of Ang-(1-7) throughout gestation (reaching peak levels at 35 weeks) which may have vasodilation, anti-fibrotic, anti-inflammatory, anti-ischemic, anti-hypertrophic, and anti-proliferative effects. Although pregnancy may be relatively protective, women with poorly controlled gestational diabetes or pre-eclampsia may be at high risk for severe COVID-19 and women infected in their 1st trimester may be more likely to have poor maternal and fetal outcomes compared with those infected in late pregnancy. The authors cite documented cases of transplacental transmission of SARS-CoV-2, although this is rare and neonates are almost never severely affected. It is still unknown whether SARS-CoV-2 can be transmitted through breastfeeding; while some studies detected SARS-CoV-2 RNA in milk samples from infected mothers, the possibility of other modes of transmission remains to be clarified. Since transmission from close contact is still possible, the authors recommend mothers with confirmed or suspected COVID-19 take preventative precautions while breastfeeding or opt instead for a healthy caregiver to feed expressed breast milk to the infant.	developing severe COVID-19. Women with poorly controlled gestational diabetes, pre-eclampsia, or early SARS-CoV-2 infection (in the 1st trimester) may have poorer maternal and fetal outcomes. Vertical transmission appears to be rare, with few adverse outcomes, and the authors find evidence of SARS-CoV-2 transmission via breastmilk to be inconclusive.	Possible vertical transmission and antibodies against SARS-CoV-2 among infants born to mothers with COVID-19: A living systematic review. J Med Virol. 2020. doi: 10.1002/jmv.26622.
Pregnancy, obstetrics, infection control, breast feeding, USA	12-Oct-20	Infection prevention and control for labor and delivery, well baby nurseries, and neonatal intensive care units	Seminars in Perinatology	Original Article	In this article, the authors present their infection control/prevention policies and procedures for an obstetric population, which were developed from mid-March to mid-May 2020 in New York City, the epicenter of the pandemic in the USA during that time. For patients, they describe screening for COVID-19, testing for SARS-CoV-2, and clearing patients from COVID-19 precautions. For healthcare employees, they address self-monitoring for symptoms, PPE in different clinical scenarios, and reducing staff exposures to SARS-CoV-2. For visitors/support persons, they address limiting them in labor and delivery, the postpartum units, and the neonatal ICU to promote staff and patient safety. Finally, they describe management of SARS-CoV-2-positive mothers and their newborns in both the well-baby nursery and in the neonatal ICU. They specifically recommend continuing to encourage direct breastfeeding and recommend against separation of mothers and infants at birth.	The authors present their infection control and prevention policies for an obstetric population in New York City, the epicenter of the COVID-19 pandemic in the USA, from March-May 2020. They recommend continuing to encourage breastfeeding and against separation of mothers and infants.	Saiman L, Acker KP, Dumitru D, et al. Infection prevention and control for labor and delivery, well baby nurseries, and neonatal intensive care units. Semin Perinatol. 2020 Oct 12:151320. doi: 10.1016/j.semperi.2020.151320.
COVID-19; mother; breastfeeding; infants	12-Oct-20	Protecting Milk Supply During the COVID-19 Pandemic	MCN: The American Journal of Maternal/Child Nursing	Article	The author discusses the importance of breastfeeding during the COVID-19 pandemic. UNICEF and WHO have recommended early, exclusive breastfeeding and skin-to-skin contact during COVID-19 including for women who are positive for SARS-CoV-2 while applying necessary precautions. According to the CDC, no SARS-CoV-2 has been detected in human milk. The American Academy of Pediatrics that had initially recommended separation of mothers and infants at birth, acknowledge in a revised statement that there is a critical window of opportunity to establish lactation and milk supply and that human milk is safe and important for the child. The CDC and UNICEF recommend symptomatic mothers who are well enough to breastfeed to wear a mask while near the child and breastfeeding, wash hands before and after contact with the child and disinfecting all surfaces. Mothers who are too unwell to breastfeed should express milk which can be fed by a healthy caregiver. It is important that all pumping equipment is washed with hot soapy water, rinsed, and dried each day. Appropriate hand	The author discusses the importance of breastfeeding during the COVID-19 pandemic. Symptomatic mothers should breastfeed if possible, while applying necessary precautions such as wearing a mask, washing hands and disinfecting surfaces; otherwise expressed milk should be fed by a healthy caregiver. Early assessment for maternal milk supply, infant's ability to effectively breastfeed at the breast and the mother's access to	Spatz DL. Protecting Milk Supply During the COVID-19 Pandemic. MCN Am J Matern Child Nurs. 2020;45(5):310. doi:10.1097/NMC.0000000000000651.

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					hygiene is necessary before and after pumping and during handling of expressed milk. It is important for the mother to begin to pump early and often using hospital-grade pump technology (personal use pumps are not ideal for establishment of lactation) every 2-3hrs for ≥8 expression sessions in a 24hr period. Early assessment for maternal milk supply, infant's ability to effectively breastfeed at the breast and the mother's access to appropriate pump technology, by healthcare providers is critical.	appropriate pump technology, by healthcare providers is critical.	
Italy, Vertical transmission, IgG, IgM, pregnancy	12-Oct-20	Analysis of SARS-CoV-2 vertical transmission during pregnancy	Nature Communications	Original Research	This study examined specimens from 31 pregnant women admitted for delivery to a hospital in Lombardo, Italy, between March - April 2020, 30 of whom tested positive at first diagnosis for COVID-19. Pregnancy can make women more susceptible to viral infections, and COVID-19 may also be more severe in pregnant women. There is still debate as to whether the developing fetus is affected. Researchers examined specimens from various participants to test for presence of SARS-CoV-2 infection, including maternal plasma samples, vaginal swabs, placental tissue, cord plasma, nasopharyngeal swabs from both mothers and infants, umbilical cord plasma, and mothers' milk. SARS-CoV-2 specific IgM and IgG was detected in 32% and 63% of maternal plasma samples, respectively. The SARS-CoV-2 genome was detected in umbilical cord blood, vaginal mucosa of the pregnant mother, one milk specimen, and at-term placentas. SARS-CoV-2 IgG was detected in 40% of umbilical cord plasma. One newborn presented with detectable IgM in cord plasma as well as positive SARS-CoV-2 in placenta, and one mother presented with IgM in milk samples. Researchers also examined 84 genes in 4 placental biopsies to determine if COVID-19 infection affected the expression of inflammatory genes in placental tissue. They found up-regulation of genes involved in the inflammatory response, including effector cytokines and chemokines, adaptive immunity mediators, downstream signaling molecules and toll-like receptors. IgG, but not IgM, are usually transferred across the placenta, and thus its presence in newborns suggests infection in-utero. These results suggest that while it may be rare, vertical transmission is possible.	Researchers tested for the presence of SARS-CoV-2 infection in specimens from mothers and infants. They found SARS-CoV-2 genome in umbilical cord blood, vaginal mucosa of the pregnant mother, one milk specimen, and at-term placentas. SARS-CoV-2 IgG was detected in umbilical cord plasma and placenta of one infant. One mother presented with IgM in milk samples. These results suggest that while it may be rare, vertical transmission is possible.	Fenizia C, Biasin M, Cetin I, et al. Analysis of SARS-CoV-2 vertical transmission during pregnancy. Nat Commun. 2020;11(1):5128. Published 2020 Oct 12. doi:10.1038/s41467-020-18933-4
Breastfeeding, neonates, neonatal care, India	12-Oct-20	Clinical Profile of SARS-CoV-2 Infected Neonates From a Tertiary Government Hospital in Mumbai, India [Free access to abstract only]	Indian Pediatrics	Original Research	In this retrospective cohort study, the authors describe the clinical and laboratory profile of SARS-CoV-2-infected neonates (n=12) at a hospital in Mumbai, India. Medical records of neonates born from 1 April-31 May 2020 were reviewed. Women admitted in labor were screened for SARS-CoV-2 infection based on the guidelines issued by the Indian Council for Medical Research. If mothers tested positive, neonates were tested for SARS-CoV-2 infection after day 2 of life. Demographic, clinical features, laboratory tests, and chest radiographs of SARS-CoV-2 infected neonates were reviewed, and neonates were followed up via telemedicine appointment until the age of 2 months. Out of 1229 mothers, 185 tested positive (15.05%), and 12 neonates (6.48%) tested positive for SARS-CoV-2 infection. Serum lactate dehydrogenase and liver enzymes were found to be elevated in these neonates. All neonates were healthy and thriving upon follow-up. The authors conclude that SARS-CoV-2 infected neonates are mostly asymptomatic and thrive on exclusive breastfeeding.	In this retrospective cohort study, the authors describe clinical features of SARS-CoV-2 infected neonates born 1 April-31 May 2020 at a hospital in Mumbai, India. The authors conclude that infected neonates are mostly asymptomatic and thrive on exclusive breastfeeding.	Kalamdani P, Kalathingal T, Manerkar S, et al. Clinical Profile of SARS-CoV-2 Infected Neonates From a Tertiary Government Hospital in Mumbai, India. Indian Pediatr. 2020; S097475591600250.

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Neonates, outcomes, vertical transmission, perinatal transmission, New York City, USA	12-Oct-20	Outcomes of Neonates Born to Mothers With Severe Acute Respiratory Syndrome Coronavirus 2 Infection at a Large Medical Center in New York City	JAMA Pediatrics	Original Investigation	Limited data on vertical and perinatal transmission of SARS-CoV-2 and health outcomes of neonates born to mothers with symptomatic or asymptomatic COVID-19 are available. The authors of this study described the outcomes of neonates born to mothers with perinatal SARS-CoV-2 infection and the prevention and control practices associated with these outcomes. They conducted a retrospective cohort analysis. They reviewed medical records for maternal and newborn data for all 101 neonates born to 100 mothers positive for or with suspected SARS-CoV-2 infection from March 13 - April 24, 2020 in New York, USA. The primary outcome was newborn SARS-CoV-2 testing results. Maternal COVID-19 status was classified as asymptomatic/mildly symptomatic vs severe/critical. Newborn characteristics and clinical courses were compared across maternal COVID-19 severity. In total, 141 tests were obtained from 101 newborns on 0 - 25 days of life. Two newborns had indeterminate test results, indicative of low viral load, 1 neonate never underwent retesting but remained well on follow-up, and the other had negative results on retesting. Maternal severe/critical COVID-19 was associated with newborns born approximately 1 week earlier and at increased risk of requiring phototherapy compared with newborns of mothers with asymptomatic/mild COVID-19. No clinical evidence of vertical transmission was identified in 101 newborns of mothers positive for or with suspected SARS-CoV-2 infection, despite most newborns rooming-in and direct breastfeeding practices	The authors of this study examined the outcomes of neonates born to mothers with confirmed or suspected SARS-CoV-2 in New York, USA. They found that there was no clinical evidence for vertical transmission in their cohort, even though rooming-in and direct breastfeeding practices were observed.	Dumitriu D, Emeruwa UN, Hanft E, Liao GV, Ludwig E, Walzer L, Arditi B, Saslaw M, Andrikopoulou M, Scripps T, Baptiste C, Khan A, Breslin N, Rubenstein D, Simpson LL, Kyle MH, Friedman AM, Hirsch DS, Miller RS, Fernández CR, Fuchs KM, Keown MK, et al. Outcomes of Neonates Born to Mothers With Severe Acute Respiratory Syndrome Coronavirus 2 Infection at a Large Medical Center in New York City. JAMA Pediatr. 2020 Oct 12. doi: 10.1001/jamapediatrics.2020.4298. Epub ahead of print. PMID: 33044493.
Breastfeeding, infant, retrograde milk flow, breastmilk	10-Oct-20	Undermining breastfeeding will not alleviate the COVID-19 pandemic	The Lancet	Correspondence	Rüdiger Groß et al. describe the detection of viral particles in human breastmilk, but the authors critique that no cell culture to measure viral viability was done. The authors argue that the likelihood of SARS-CoV-2 being introduced into milk samples from the infant saliva via retrograde milk flow was not considered, even though Groß et al. confirmed that the infant was fed just before sample collections. SARS-CoV-2 is present in saliva during the first week of signs, and the infant showed signs of infection that coincided precisely with the period in which positive milk samplings were collected. Since the Correspondence by Groß et al. was published, results of larger studies have shown no viable infectious virus in breastmilk and that breastfeeding is probably not a mode of SARS-CoV-2 transmission. The authors state that epidemiological evidence suggests the harms of breastfeeding cessation disproportionately outweigh the risk of COVID-19 transmission.	The authors argue that the likelihood of SARS-CoV-2 being introduced into milk samples from the infant saliva via retrograde milk flow was not considered to describe the detection of viral particles in human breastmilk in the Correspondence by Groß et al. Contrasting the results of Groß et al., results of larger studies have shown no viable infectious virus in breastmilk and that breastfeeding is probably not a mode of SARS-CoV-2 transmission.	Shenker NS, Wesolowska A, Goudoever JB van, Nangia S, Klotz D. Undermining breastfeeding will not alleviate the COVID-19 pandemic. The Lancet. 2020;396(10257):1064-1065. doi:10.1016/S0140-6736(20)32071-7
Breastfeeding, infant, breastmilk	10-Oct-20	Undermining breastfeeding will not alleviate the COVID-19 pandemic – Authors' reply	The Lancet	Correspondence	The authors respond to a letter commenting on the authors' original study. They report the detection of SARS-CoV-2 RNA in consecutive milk samples from an infected mother. The authors did not claim that SARS-CoV-2 is transmitted via contaminated breastmilk or that breastfeeding should be discontinued by mothers with the infection. The authors note that there are eight other reports of SARS-CoV-2 RNA detection in milk samples, in several cases at multiple time points during the course of the infection. In most of	Groß et al. report the presence SARS-CoV-2 RNA in milk samples and point to eight other reports of SARS-CoV-2 RNA detection in milk samples to demonstrate their result is not isolated. The authors critique the explanation of Shenker	Groß R, Conzelmann C, Müller JA, Reister F, Kirchhoff F, Münch J. Undermining breastfeeding will not alleviate the COVID-19 pandemic – Authors'

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					these studies, care was taken to avoid environmental contamination. The authors think that the detection of SARS-CoV-2 RNA in breastmilk being a result of retrograde milk flow of infant saliva containing the virus as suggested by Shenker et al. is unlikely. The authors note that SARS-CoV-2 contamination from the infant has been excluded in three studies reporting viral RNA in milk from mothers, where the infant was either continually COVID-19-negative or separated from the mother, or both. No cases of SARS-CoV-2 transmission via breastfeeding have been reported, and it has not been established if the virus in this body fluid is infectious. The authors agree with the WHO recommendation of continuing breastfeeding upon maternal SARS-CoV-2 infection.	et al. and note that SARS-CoV-2 contamination from the infant has been excluded in three studies reporting viral RNA in milk from mothers, where the infant was either continually COVID-19-negative or separated from the mother, or both.	reply. The Lancet. 2020;396(10257):1065-1066. doi:10.1016/S0140-6736(20)32066-3
Prenatal care, perinatal care, obstetrics, COVID-19, SARS-CoV-2, pregnancy, complications, management, breastfeeding, vertical transmission	9-Oct-20	Clinical guidance and perinatal care in the era of coronavirus disease 2019 (COVID-19) [Free Access to Abstract Only]	Journal of Perinatal Medicine	Article	This article summarizes current evidence and recommendations on prenatal and perinatal care during the COVID-19 pandemic. Evidence has not demonstrated an increased risk of SARS-CoV-2 infection during pregnancy, though pregnant women who are infected appear to be at 1.5 times higher risk of ICU admission and 1.7 times higher risk of mechanical ventilation. SARS-CoV-2 testing is generally by RT-PCR; in cases of limited availability some localities have opted for COVID-19 antigen testing, although these tests have lower sensitivity and specificity. SARS-CoV-2 infection alone is not an independent recommendation for delivery, unless dictated by obstetrical indications or maternal complications. The authors provide specific treatment recommendations in the case that preterm delivery is indicated. Surveillance of fetal growth is recommended, especially during the 3rd trimester, due to documented risks of intervillous placental thrombosis in pregnant women who have recovered from COVID-19. Risk mitigation against SARS-CoV-2 transmission includes limiting the number of visitors and staff, informing patients of screening protocols at the time of booking, tele-sonography when possible, and PPE use. In-person essential "milestone" visits are still indicated. Current data suggest that the risk of vertical transmission remains low, regardless of mode of delivery and it is also unlikely that SARS-CoV-2 is transmitted through breastmilk. The authors cite current recommendations that infected mothers breastfeed their newborns, ideally using expressed breastmilk, with proper hygiene precautions.	This article summarizes current evidence on the effect of SARS-CoV-2 on pregnancy and provides evidence-based recommendations on SARS-CoV-2 testing and management, risk mitigation, and outpatient high-risk prenatal care.	Afshar Y, Silverman NS, Han CS, Platt LD. Clinical guidance and perinatal care in the era of coronavirus disease 2019 (COVID-19). J Perinat Med. 2020 Oct 9:/j/jpme.ahead-of-print/jpm-2020-0400/jpm-2020-0400.xml. doi: 10.1515/jpm-2020-0400. Epub ahead of print. PMID: 33035193.
China, breastfeeding, lactating	9-Oct-20	Report on a lactating patient with COVID-19	Infection	Case Report	This article reports the first confirmed case of COVID-19 in a lactating mother in Chizhou, Anhui Province, China. The woman presented with intermittent fever for 16 days and cough for 10 days, as well as consolidated lesions in CT scans. Upon diagnosis, the patient was immediately sequestered to the isolation ward of the infectious disease department. Breastfeeding of the child (6 months old) was immediately discontinued, and the infant was taken home to be cared for by the father and given artificial nutrition. All family members of the patient, including the child, tested negative for SARS-CoV-2. During her hospitalization, the patient also experienced bilateral breast tenderness. She was discharged from the hospital almost 4 weeks from original admittance. The authors stress that while breastfeeding is often beneficial for both mother and child, the safety of breastfeeding is still debatable for mothers infected with severe acute and highly pathogenic infectious diseases. The authors discuss the practice	This article presents the first known lactating COVID-19 patient in Chizhou, China. Throughout her stay, she presented with fever, dry cough, and breast tenderness, and the decision was made to discontinue breastfeeding of her infant.	Liu, X., Zhou, L. & Zhu, Y. Report on a lactating patient with COVID-19. Infection (2020). https://doi.org/10.1007/s15010-020-01532-2

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					and alternatives to breastfeeding in the COVID-19 context. It is still an active area of research whether SARS-CoV-2 can be transmitted via breastmilk.		
Breastfeeding, human milk, social distancing, support, telehealth, United States	9-Oct-20	Birth and Breastfeeding in the Hospital Setting during the COVID-19 Pandemic	MCN: The American Journal of Maternal Child Nursing	Case Series	To better understand the ways in which new families experience pregnancy and lactation during the COVID-19 pandemic and the implications for maternal-child nurses and other health care providers, the authors share the experiences of 3 healthy first-time mothers during the start of the pandemic in the US. Shared concerns and experiences among the 3 participants involved 5 key areas: 1) Recommendations changing frequently, making it difficult to navigate the health care system. 2) Guilt, concern, and stress related to the pandemic. 3) In-person versus telehealth visits. One participant liked the convenience of tele-health visits, but all women also questioned their accuracy and effectiveness. 4) All mothers reported grief and sadness related to social distancing, and missing time with family and friends. 5) Silver linings, such as having partners working from home. In the care of postpartum and breastfeeding patients during the COVID-19 pandemic, health care providers need to give sound and consistent anticipatory guidance, enhance communication, and improve the provision of evidence-based lactation care and support.	The authors share the experiences of 3 healthy breastfeeding mothers during the start of the COVID-19 pandemic. Health care providers need to give sound and consistent anticipatory guidance, enhance communication, and improve the provision of evidence-based lactation care and support.	Spatz DL, Froh EB. Birth and Breastfeeding in the Hospital Setting during the COVID-19 Pandemic. MCN Am J Matern Child Nurs. 2020 Oct 9. doi: 10.1097/NMC.0000000000000672. Epub ahead of print. PMID: 33048860.
Infection, pediatrics, MIS-C	8-Oct-20	COVID-19 infection prevalence in pediatric population: Etiology, clinical presentation, and outcome	Journal of Infection and Public Health	Review Article	The authors conducted a literature review on COVID-19 in the pediatric population to explore the etiology, clinical presentations, risk factors, and outcomes from 1 December 2019 to 20 August 2020. Children are less commonly affected by COVID-19, and they usually experience mild or no symptoms compared to the adult population. Gastrointestinal symptoms can occur without respiratory symptoms. Compared to Kawasaki Disease patients, MIS-C patients were usually older, experienced shock-like symptoms involving gastro-intestinal and cardiovascular systems and presented with lymphopenia and significantly elevated inflammatory markers. The main risk factors for the pediatric cases were close contact with an infected family member and recent travel history or residence in an endemic area. The authors evaluate the RT-PCR and molecular/serological testing for SARS-CoV-2 and suggest using a chest CT scan to improve the sensitivity. The possibility of vertical transmission is uncertain, and the authors recommend the breast milk be provided as expressed breast milk or recommend use of formula. The neonates who become symptomatic or test positive for SARS-CoV-2 should be admitted in a negative pressure isolation room with an airway management facility. Overall, most pediatric COVID-19 patients have a good prognosis, and the early identification in infants and children is critical to implement effective measures.	The literature review reveals that the pediatric population is less commonly affected by COVID-19 and experiences less severe symptoms compared to the adult population. The major risk factors for pediatric COVID-19 cases were close contact with SARS-CoV-2-positive family members, a recent history of travel, and/or residence in endemic areas.	Alsohime F, Temsah MH, Al-Nemri AM, et al. COVID-19 infection prevalence in pediatric population: Etiology, clinical presentation, and outcome, Journal of Infection and Public Health, 2020. ISSN 1876-0341, https://doi.org/10.1016/j.jiph.2020.10.008 (http://www.sciencedirect.com/science/article/pii/S1876034120306870)
Breastmilk, formula	8-Oct-20	Marketing of breastmilk substitutes during the COVID-19 pandemic	The Lancet	Correspondence	The authors wrote this article to address concerns that the infant formula industry has been actively exploiting concerns about COVID-19 to increase sales, in violation of the WHO International Code of Marketing of Breastmilk Substitutes and national laws in many countries. They state that large manufacturers of breastmilk substitutes have inappropriately positioned themselves as sources of public health expertise, and suggested various unnecessary hygiene measures, the use of expressed breastmilk, and the separation of mothers from their infants. These recommendations undermine breastfeeding and could increase the risk of infant death. During	This article addresses the push by the formula industry to increase artificial milk product use for infants during the COVID-19 pandemic. The authors state that this violates both WHO's International Code of Marketing of Breastmilk Substitutes and many national laws.	Tulleken C., Wright C., McCoy D., et al. Marketing of breastmilk substitutes during the COVID-19 pandemic. The Lancet 2020. doi: 10.1016/S0140-6736(20)32119-X

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					the current pandemic, many companies have donated milk powder to communities in Canada, India, Italy, Pakistan, the Philippines, and the UK, violating both national laws and the WHO Code. The authors urge for increased implementation and enforcement of the WHO Code in every country, with severe sanctions for any violations.		
Recommendations, Poland	7-Oct-20	Recommendations of the Polish Paediatric Society and the National Consultant in the field of paediatrics regarding outpatient care for children during the COVID-19 pandemic caused by SARS-CoV-2	Pediatria Polska - Polish Journal of Paediatrics	Article	The article presents guidelines by the Polish Pediatric Society and the National Consultant in the field of Pediatrics that describe the basic principles of outpatient care for children during COVID-19 pandemic. The guidelines were developed based on literature review, content from websites of scientific societies, and international recommendations. The guidelines concern outpatient care for sick children, children with documented SARS-CoV-2 infection, or for children of mothers with confirmed COVID-19. Briefly, the principles of safe respiratory isolation are recommended, prioritizing remote medical visits (by phone or video) if a physical examination is not necessary. For in-person appointments, the doctor should use PPE according to current recommendations. Newborns can acquire SARS-CoV-2 and frequent, regular phone follow-up for 14 days after birth is recommended. These guidelines also state infants born from mothers with COVID-19 should stay in a separate room until the mother is no longer exhibiting symptoms and has 2 consecutive negative SARS-CoV-2 RT-PCR test results from samples collected 24 hours apart. The authors also recommend the mother pump breast milk after following the correct breast and hand hygiene and have an uninfected caregiver feed the infant. An infant with SARS-CoV-2 infection can be breastfed. This article also discusses aspects associated with vaccinations, preventive visits for healthy children, and the monitoring of a child's safety and mental health status.	The article presents guidelines by the Polish Pediatric Society and the National Consultant in the field of Pediatrics for outpatient care for children during COVID-19 pandemic, including practices for protecting infants born to mother with COVID-19, based on literature review, content from websites of scientific societies, and international recommendations.	Jackowska T, Peregud-Pogorzelski J, Marczyńska M. Recommendations of the Polish Paediatric Society and the National Consultant in the field of paediatrics regarding outpatient care for children during the COVID-19 pandemic caused by SARS-CoV-2. Pediatria Polska - Polish Journal of Paediatrics. 2020;95(2):61-64. doi:10.5114/polp.2020.97170.
Pediatrics, screening, testing, isolation, PPE, Poland, breastfeeding	7-Oct-20	Guidance for paediatric emergency departments/rooms and departments of paediatrics on the management of a child suspected of or diagnosed with COVID-19	Polish Journal of Paediatrics	Practice guidelines	In this guideline, the authors present recommended procedures for emergency departments, pediatric emergency rooms, and departments of pediatrics in Poland on the management of a child suspected of or diagnosed with COVID-19 [age range not specified]. These recommendations include conducting interviews regarding symptoms and exposures prior to contact with healthcare workers and where to provide optimal locations of care if symptoms, exposures, or positive test results for SARS-CoV-2 are present. They also provide recommendations on personal protective equipment, breastfeeding (a hospitalized infant with SARS-CoV-2 infection can be breastfed) and keeping a caregiver with the affected child.	The authors provide guidance on screening, testing, and management of children with suspected or confirmed COVID-19 in Poland.	Jackowska T, Marczyńska M, Peregud-Pogorzelski J. Guidance for paediatric emergency departments/rooms and departments of paediatrics on the management of a child suspected of or diagnosed with COVID-19. Pediatria Polska - Polish Journal of Paediatrics. 2020;95(2):65-72. doi:10.5114/polp.2020.97220.

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Pregnant, health care, information communication, media, breastfeeding, UK	7-Oct-20	Women's perceptions of COVID-19 and their healthcare experiences: a qualitative thematic analysis of a national survey of pregnant women in the United Kingdom	BioMed Central (BMC) Pregnancy and Childbirth	Original Research	This national survey in the UK aimed to explore pregnant women's perceptions of COVID-19 and their healthcare experiences. Women who are currently pregnant, or who have delivered during the pandemic were invited to partake in the survey in May 2020. 1451 participants replied to the questionnaire. 59% of participants felt there were barriers to accessing healthcare for pregnant women during COVID-19 lockdown and discussed a multitude of reasons. Perceived barriers to seeking healthcare included 'not wanting to bother anyone', 'lack of wider support from allied healthcare workers' and the influence of the media. Other concerns included the use of virtual clinics antenatally which 62% felt provided 'impersonal care', the presence of birthing partners, and rapidly changing and evolving services. Breastfeeding support was the most common theme discussed as participants were concerned about how these services will operate postnatally. The influence of the media has also had a significant impact on the way women perceive hospital care in light of COVID-19. 42% of women said that they did not want to seek support as they were 'worried about being invited into hospital for a review,' citing concerns stemming from media coverage about COVID-19 risk and inadequate PPE for healthcare workers.	The findings from this study conducted in the UK provide significant insight into pregnant women's perceived barriers to seeking healthcare during the COVID-19 pandemic.	Karavadra B, Stockl A, Prosser-Snelling E, et al. Women's perceptions of COVID-19 and their healthcare experiences: a qualitative thematic analysis of a national survey of pregnant women in the United Kingdom. BMC Pregnancy Childbirth. 2020 Oct 7;20(1):600. doi: 10.1186/s12884-020-03283-2.
Pregnancy, delivery, neonate, Korea	5-Oct-20	A case of delivery of a pregnant woman with COVID-19 infection in Daegu, Korea	Obstetrics and Gynecology Science	Case Report	In this case report, the authors describe the delivery of a healthy girl at 38 weeks gestation by a woman who had recovered from COVID-19 in Daegu, Korea. After having fever and cough for 2 days and a known contact with COVID-19 pneumonia, the woman tested positive for SARS-CoV-2. At this time, she was 36 weeks pregnant but with mild symptoms not requiring treatment. On the 13th day after confirmation of the infection, the patient was admitted to the hospital for delivery at 38 weeks of pregnancy due to concerns about the condition of the fetus. Upon admission, maternal physical examination findings, imaging, and labs were normal. A fetal ultrasound showed adequate growth and the nonstress test results were normal. After multi-disciplinary consultation she gave birth to a 3,130 g girl via cesarean delivery on maternal request under spinal anesthesia in a negative-pressure operating room staffed by personnel with adequate PPE. The umbilical cord was clamped right away and Apgar scores were 9 and 10 at 1 and 5 minutes, respectively. After delivery, the mother and infant were transferred to separate isolation rooms without any skin-to-skin contact. Infant nasopharyngeal swab, amniotic fluid, placental tissue, and umbilical venous blood yielded negative results twice in 24-hours. The placenta also yielded no abnormal findings. Breast milk was substituted with formula milk to minimize the risk of infection to the neonate via respiratory droplet or direct contact. On the 5th day after delivery, the mother and infant were discharged without any other symptoms associated with COVID-19.	In this case report, the authors describe the delivery of a healthy neonate at 38 weeks gestation to a mother who had recovered from a mild case of COVID-19 in Daegu, Korea.	Bae JG, Ha JK, Kwon M, Park HY, Seong WJ, Hong SY. A case of delivery of a pregnant woman with COVID-19 infection in Daegu, Korea. Korean Journal of Obstetrics & Gynecology. 2020 Oct 5.
Breast feeding, infant, milk, vertical transmission, influenza	3-Oct-20	Covid-19 and breastfeeding: what's the risk?	Journal of Perinatology	Commentary	As a general rule, breastfeeding provides the cleanest and safest form of young child nutrition in disaster situations, and is the normative standard for infant nutrition. Studies of breastfeeding during influenza infection serve as a potential model for the way breastmilk may protect infants against illness, such as COVID-19. If the mother is infected, her milk may provide antibodies against that specific infection. Breastfeeding also allows the mother to	This commentary recommends further research on the potential risks of breastfeeding while infected with COVID-19, but also reminds readers of the benefits of breastfeeding during disaster	Hand IL, Noble L. Covid-19 and breastfeeding: what's the risk? J Perinatol. 2020 Oct;40(10):1459-1461. doi:

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					independently provide for her child despite the helplessness that occurs during a disaster. There is limited data on the presence of SARS-CoV-2 in breastmilk and the possibility of mother-infant transmission; these topics need continued research. Due to this limited data, guidelines vary on managing obstetric and newborn care when mothers have COVID-19. Most guidelines do recommend that mothers who room-in or breastfeed should follow strict hand washing and use of masks, and they also recommend that the expressed breastmilk of these mothers to be fed to their infants. Future guidance on separating infants and mothers need to consider not just the risks of the virus, but also the risks to breastfeeding.	situations, such as the COVID-19 pandemic.	10.1038/s41372-020-0738-6. Epub 2020 Jul 13. PMID: 32661368; PMCID: PMC7355136.
Case report, intrauterine vertical transmission, vaginal delivery, Wuhan, China	2-Oct-20	Vaginal Delivery in Women With COVID-19: Report of Two Cases	BMC Pregnancy and Childbirth	Case Report	The authors analyzed the clinical characteristics and outcomes of two pregnant women with COVID-19 who delivered vaginally at the Maternal and Child Health Hospital of Hubei Province, in Wuhan, China, in February 2020, to determine if vertical transmission occurred. The first case is a 35-year-old pregnant woman at 37 weeks 6 days gestation admitted in spontaneous labor. Except for the abnormalities on her chest CT, she was asymptomatic. She subsequently had an uncomplicated spontaneous vaginal delivery, and her infant was discharged home for isolation. Her SARS-CoV-2 results returned positive on the 2nd day after sampling, and she was therefore transferred to the designated hospital for further management. By postpartum day 14, neither the neonate nor his father and grandmother, who cared for him at home, developed COVID-19-related symptoms. The second case is a pregnant woman at 38 weeks 2 days gestation, also admitted in labor. However, she had the typical manifestations of COVID-19, including cough, lymphopenia, and abnormal chest CT images. She subsequently delivered a healthy neonate vaginally and was transferred to the designated hospital for treatment and isolated from the neonate. The mother decided to temporarily suspend breastfeeding. On postpartum day 2, her nasopharyngeal SARS-CoV-2 swab result returned positive, while the neonate's result was negative. Both neonates were followed for more than 14 days, and neither developed COVID-19-related symptoms.	This study showed no evidence of vertical transmission of COVID-19 to neonates of 2 women who underwent vaginal deliveries in Wuhan, China. The authors concluded that there is still insufficient evidence supporting maternal-fetal vertical transmission for COVID-19-infected mothers in late pregnancy, and vaginal delivery may not increase the possibility of neonatal infection.	Cao D, Chen M, Peng M, Yin H, Sun G. Vaginal delivery in women with COVID-19: report of two cases. BMC Pregnancy Childbirth. 2020 Oct 2;20(1):580. doi: 10.1186/s12884-020-03281-4. PMID: 33008308; PMCID: PMC7530846.
Knowledge, practice, and attitude; IPC; PPE; pregnancy; obstetrics; Nepal	1-Oct-20	Evaluation of Knowledge, Attitude, Practice and Hospital Experience Regarding COVID-19 among Post-partum Mothers at a Tertiary Care Center: A Cross-sectional Study	Kathmandu University Medical Journal (KUMJ)	Article	Efforts to enhance the knowledge, attitudes, and practice of the public, especially high-risk groups like pregnant and postpartum woman, are crucial to manage the COVID-19 pandemic. This study from 28 March - 5 April, 2020 surveyed 203 postpartum women (median age 25 years; range 15-40 years) at a tertiary care center in Nepal to analyze the knowledge, attitude, practice and hospital experience regarding COVID-19. While only 40.9% of participants were asked about the clinical features of COVID-19 during admission, almost all participants had heard about COVID-19 (96.6%). Television or radio was the most common source of information (81.8%). Most of the participants (88.2%) knew that COVID-19 has effects on pregnancy. A majority were aware about how SARS-CoV-2 is transmitted and its preventive measures. Almost all of participants (97%) wore a mask during their hospital stay and all participants washed their hands with soap and water or alcohol-based sanitizer. A majority (79.3%) wore a mask while breastfeeding their infants. Among the healthcare workers who were involved in delivery and clinical examination, only about 30% used PPE. The	This survey of 203 postpartum mothers at a single site in Nepal found that this cohort showed good knowledge, attitude, and practice regarding the COVID-19 pandemic.	Adhikari SP, Pariyar J, Sapkota K, Gurung TK, Adhikari SR. Evaluation of Knowledge, Attitude, Practice and Hospital Experience Regarding COVID-19 among Post-partum Mothers at a Tertiary Care Center: A Cross-sectional Study. Kathmandu Univ Med J (KUMJ). 2020;18(70):10-14.

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					authors cite other studies that confirm the need to educate healthcare workers on the proper use of PPE and its rationale. The authors conclude that this cohort of postpartum mothers had good knowledge, attitude, and practice regarding the COVID-19 pandemic.		
Obstetrics, labour and delivery, COVID-19, clinical management	1-Oct-20	Obstetric protocols in the setting of a pandemic	Seminars in Perinatology	Report	The authors review key areas in the obstetric protocol that should be considered and modified in the face of the COVID-19 pandemic. In the realm of patient triage, the authors recommend appropriate training of administrative staff on screening protocols, as well as utilization of phone/remote triage to redirect patients to the appropriate settings, such as outpatient clinics and hospital evaluations. They also recommend screening at labor and delivery, with the appropriate personal PPE being issued to staff and management of COVID-19 patients. For the labor and delivery (L&D) unit, the authors recommend universal screening and testing procedures as well as isolation of cases (or persons under investigation) to limit transmission of SARS-CoV-2. They also suggest modifications and considerations for bed management, the utilization of critical care resources in L&D, modifications to visitor policy and the scheduling of deliveries. They suggest modifications to labor management protocols such as delivery timing/mode of affected patients, anesthesia, intrapartum care, intrapartum resuscitation, the impact of obstetric medications on disease course, as well as discuss the risk of vertical transmission, the second stage of labor, and tips on the reduction of hemorrhagic labor. They also recommend modifications in post-partum care practices such as breastfeeding and discharge planning for pregnant patients. As such, they recommended modifications to current obstetrics management to mitigate risks for pregnant patients, neonates, families, and healthcare staff.	In this report, the authors make recommendations for modification and review for key areas in obstetric management, including patient triage, labor and delivery management, critical care, obstetric management, as well as post-partum care during the COVID-19 pandemic. These may include modification to visiting policy and discussion of vertical transmission. They introduce the modifications with the aim of risk mitigation for pregnant patients, neonates, their families, as well as healthcare staff.	Boelig RC, Lambert C, Pena JA, et al. Obstetric protocols in the setting of a pandemic. Semin Perinatol. 2020;44(6):151295. doi:10.1016/j.semperi.2020.151295
COVID-19; Coronavirus 2019 disease; SARS-CoV-2; children; newborn; breastfeeding; vertical transmission	30-Sep-20	Coronavirus-2019 Disease (COVID-19) in Children	Medeniyet Medical Journal	Review	In this review, the authors discuss the epidemiology of SARS-CoV-2 in the pediatric population [age range not specified], clinical manifestations of COVID-19 in children and newborns, materno-fetal vertical transmission, and possible explanations for COVID-19's relatively mild manifestation in children. The authors propose that high numbers of ACE2 receptors, underdeveloped immune responses, cross-reaction with other viruses, and reduced environmental exposure may account for milder COVID-19 in children. Fetal hemoglobin may also be protective against SARS-CoV-2. Although many pediatric cases are asymptomatic, the virus can still be shed. Evidence of materno-fetal vertical transmission remains unclear. However, high fever in the 1st trimester may lead to increased risk of congenital anomalies or miscarriage. The prevalence rates of severe or critical disease are 10.6% in children < 1 year (higher than any age group between 1-17 years) and Infants <1 year have the highest percentage of hospitalizations among pediatric patients. Management of COVID-19 in children, including the management of symptomatic and asymptomatic newborns is also discussed. There is currently no evidence for transmission through breast milk; therefore infected mothers should breastfeed their infants by taking all hygiene precautions. Recommendations for preventing airborne transmission between mother and newborn when sharing a room are	In this review, the authors discuss the epidemiology of SARS-CoV-2 in the pediatric population, clinical manifestations of COVID-19 in children and newborns, materno-fetal vertical transmission, and possible explanations for COVID-19's relatively mild manifestation in children. The authors also provide specific recommendations for mothers with COVID-19 rooming with and breastfeeding their newborns. They also caution that routine immunizations of children should not be deferred.	Ovali F. Coronavirus-2019 Disease (COVID-19) in Children. Medeni Med J. 2020;35(3):242-252. doi:10.5222/MMJ.2020.77675

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					provided. The authors also caution that routine immunizations of children should not be deferred.		
Maternal bonding, rooming-in, skin to skin contact, breastfeeding, do no harm, USA	30-Sep-20	An Initiative to Evaluate the Safety of Maternal Bonding in Patients With SARS-CoV-2 Infection	The Journal of Maternal-Fetal and Neonatal Medicine	Original Article	The authors present a quality improvement project that analyzed all cases of SARS-CoV-2 positive pregnancies delivered at the University of Maryland Medical System, USA, from March to June 2020. They compared neonatal transmission rates between those neonates who experienced bonding versus those who were separated. Maternal bonding was defined by events such as rooming-in, skin to skin contact (STSC), and breastfeeding. The results showed that 86 of the 1989 women screened for SARS-CoV-2 infection on admission tested positive. Of the 31 patients included in the final analysis, five women (16%) were admitted to the ICU and required mechanical ventilation. Also, 17 (65%) opted for rooming-in, 12 (46%) for STSC, and 16 (61%) fed their neonates with breastmilk (11 direct breastfeeding and five pumped the breast milk). The authors also observed that the number of neonates that bonded with their mothers (n = 17) and the ones that were separated (n = 14) was similar and there was no difference in the transmission of the SARS-CoV-2 in the tested neonates (p = 1) Furthermore, all neonatal tests for SARS-CoV-2 returned negative during hospitalization.	The authors found no difference in SARS-CoV-2 neonatal transmission rates between those neonates who experienced bonding versus those who were separated. These findings suggest that maternal bonding appears safe in neonates born to mothers that are SARS-CoV-2 positive, assuming that appropriate precautions are followed.	Cojocaru L, Crimmins S, Sundararajan S, Goetzinger K, Elsamadicy E, Lankford A, Turan OM, Turan S. An initiative to evaluate the safety of maternal bonding in patients with SARS-CoV-2 infection. J Matern Fetal Neonatal Med. 2020 Sep 30:1-7. doi: 10.1080/14767058.2020.1828335. Epub. PMID: 32998572.
Children, milk, homeostasis, immune system	28-Sep-20	Understanding the role of milk in regulating human homeostasis in the context of the COVID-19 global pandemic	Trends in Food Science & Technology	Review	The authors review potential roles of milk in regulating human homeostasis to provide new insight and references for personal care at home and/or in the hospital during the global COVID-19 pandemic. Since children exhibit mild symptoms, the authors argue that children regulate homeostasis in the disease state through a series of mechanisms, which is conducive to alleviation of the disease. Milk plays a very important role in the maintenance of homeostasis. Milk and its nutrients can regulate excessive inflammation, playing a role in immune homeostasis. Milk supports intestinal homeostasis since milk is rich in probiotics, which can reverse the imbalance of gut microbiota and prevent aggravating disease development. Milk helps maintain nutritional homeostasis, by providing essential nutrients for patients to support immune cells against SARS-CoV-2.	The review discusses roles of milk in regulating human homeostasis, especially in the disease state associated with COVID-19. Milk plays an important role in the maintenance of immune, intestinal, and nutritional homeostasis, and the authors argue can be a source to regulate excessive inflammation.	Ren G, Cheng G, Wang J. Understanding the role of milk in regulating human homeostasis in the context of the COVID-19 global pandemic [published online ahead of print, 2020 Sep 28]. Trends Food Sci Technol. 2020. doi:10.1016/j.tifs.2020.09.027
Breastfeeding, case study, human milk, infant, infant care, infant nutrition, pregnancy, vertical transmission	28-Sep-20	Early Identification of IgA Anti-SARSCoV-2 in Milk of Mother With COVID-19 Infection [Free Access to Abstract Only]	Journal of Human Lactation	Case Report	Human milk can contain specific antibodies that could modulate a possible newborn infection by SARS-CoV-2. A 32-year-old pregnant woman, gestational age 37 and 3/7 weeks, was admitted to an emergency room in Brazil with a flu-like syndrome caused by COVID-19. The female newborn was appropriate for gestational age. The mother-infant dyad remained in the rooming-in unit during hospitalization, the newborn was exclusively breastfed and WHO's recommendations for contact and airway precautions were followed. On the 3rd day after delivery, two mother's milk samples (3 and 5 mL) were collected by hand expression. The samples were centrifuged for 10 min twice consecutively to separate fat, which was removed, and the remaining material was transferred to another tube to determine anti-SARS-CoV-2 IgA and IgG. Anti-SARS-CoV-2 IgA was detected in the two samples evaluated, which values were 2.5 and 1.9 [no units provided], respectively. No anti-SARS-CoV-2 IgG was detected. The infant continued to be exclusively breastfed and remained well through 45 days of age. The presence of SARS-	In this case study, the authors demonstrated the presence of anti-SARS-CoV-2 IgA in the breastmilk of a puerperal woman with COVID-19 in Brazil during the first 72 hr after delivery. The infant remained exclusively breastfed and without symptoms related to COVID-19 infection up to 45 days of life.	Lebrão CW, Cruz MN, Silva MHD, et al. Early Identification of IgA Anti-SARSCoV-2 in Milk of Mother With COVID-19 Infection. J Hum Lact. 2020 Sep 28 doi: 10.1177/0890334420960433. Epub ahead of print.

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					CoV-2 IgA in the milk of mothers infected with COVID-19 may be related to protection against the transmission and severity of the disease in their infants.		
Delivery outcomes, pregnancy outcomes, preterm birth, Sweden	27-Sep-20	Characteristics and short-term obstetric outcomes in a case series of 67 women tested positive for SARS-CoV-2 in Stockholm, Sweden	Acta Obstetricia et Gynecologica Scandinavica	Original Research	Sweden's guidelines for the care of COVID-19 positive pregnant women recommend individualized antenatal care, mode of delivery based on obstetric considerations, and no routine separation of mothers and newborns. Breastfeeding is encouraged. This retrospective case series describes clinical characteristics and short-term outcomes of SARS-CoV-2 positive women and their neonates. The study included all PCR-positive women (n=67) who gave birth from 19 March to 26 April 2020 in Stockholm, Sweden. During the study period, some Stockholm hospitals tested all admitted obstetric patients, and some only tested symptomatic patients. Symptoms in this study ranged from asymptomatic to manifest severe COVID-19 disease. The mean age was 32 years (range 19-42 years), 40% (n=27) were nulliparous, and 61% (n=41) were overweight or obese. Further, 15% (n=10) had diabetes and 21% (n=14) had a hypertensive disease. 70% (n=47) of the women had a vaginal birth. Preterm delivery occurred in 19% (n=13) of the women. 9 of the preterm deliveries were medically indicated, including 2 who were delivered preterm due to severe COVID-19 illness. 4 women (6%) were admitted to intensive care unit postpartum. 3 neonates were PCR-positive for SARS-CoV-2 after birth.	In this case series of 67 test-positive women, few women presented with severe COVID-19 illness, and the majority of women had a vaginal birth at term with a healthy neonate that was negative for SARS-CoV-2.	Remaeus K, Savchenko J, Brismar Wendel S, Gidlöf SB, Graner S, Jones E, Molin J, Saltvedt S, Wallström T, Pettersson K. Characteristics and short-term obstetric outcomes in a case series of 67 women tested positive for SARS-CoV-2 in Stockholm, Sweden. Acta Obstet Gynecol Scand. 2020 Sep 27. doi: 10.1111/aogs.14006. Epub ahead of print. PMID: 32981033.
Neonate, infant, vertical transmission, pregnancy, birth, c-section, vaginal delivery	25-Sep-20	Thinking about the neonates born to mothers with COVID-19	Translational Pediatrics	Letter to the Editor	According to published reports, many neonatal pharyngeal swabs tested for SARS-CoV-2 RT-PCR have been negative. In this letter, originally submitted 12 March 2020, the authors state that some of these results could be false negatives due to errors or test limitations. They suggest performing at least one nucleic acid test in the first three days of life, and then repeating the test if the infant is symptomatic. Samples should be collected, transported, and received in accordance with best practices for SARS-CoV-2 testing. For neonates requiring mechanical ventilation, the testing of lower respiratory tract specimens is recommended. The authors mention that, if transplacental transmission were to occur, pharyngeal testing could be negative for neonates delivered by C-section. Vaginally delivered neonates may be infected with the virus in the birth canal, and their pharyngeal swabs could be positive. In the authors' opinion, then, the high number of negative results from neonatal pharyngeal swabs does not rule out the possibility of vertical transmission. They recommend collecting samples of vaginal secretions, amniotic fluid, placenta, umbilical cord blood, breastmilk, and neonatal blood samples at delivery of COVID-19 positive women, even if the neonatal pharyngeal swabs are negative. In conclusion, the authors state that the diagnostic and exclusion criteria for COVID-19 in adults and children may not apply to neonates. They recommend close monitoring of infants at risk for COVID-19.	These authors state that the diagnostic and exclusion criteria for COVID-19 in adults and children may not apply to neonates. They offer suggestions for testing and monitoring neonates at risk for COVID-19 infection.	Li ZY, Dang D, Qu YM, Wu H. Thinking about the neonates born to mothers with COVID-19. Transl Pediatr. 2020 Aug;9(4):573-575. doi: 10.21037/tp-20-97. PMID: 32953556; PMCID: PMC7475310.
Infected mother, newborn, vertical	25-Sep-20	Vertical Transmission of SARS-CoV-2 from an	Journal of Tropical Pediatrics	Research Letter	The authors report a case of vertical transmission of SARS CoV-2 from a 25-year-old asymptomatic pregnant woman (38 week gestation) to her newborn (female) who had a completely asymptomatic course in India. The woman was diagnosed with SARS-CoV-2 infection on 11 May 2020 before	The authors report a case of vertical transmission of SARS CoV-2 from a 25-year-old asymptomatic pregnant woman (38 week	Singh MV, Shrivastava A, Maurya M. Vertical Transmission of SARS-CoV-2 from an

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transmission, India		Asymptomatic Pregnant Woman in India			admission with unknown source of contact. Based on concerns about maternal infection, she underwent C-section on 12 May 2020. She did not need any respiratory support at delivery. The neonate was separated immediately after birth and received thorough cleaning and routine care. She was clinically and hemodynamically stable and started on formula feeds. RT-PCR testing of the neonate's nasopharyngeal swab at 24 hours gave a positive result for SARS-CoV-2. She was kept under observation and showed normal heart rate, no dyspnoea, maintaining SpO2 saturation at room air and no edema or rash. At 10 days of life, RT-PCR test result was negative. Considering the mother was completely asymptomatic before C-section, the infant was never in contact with maternal vaginal secretions, intact membranes before birth, no skin-to-skin contact with the mother, and immediate separation following delivery, this case suggests the rare phenomenon of vertical transmission of COVID-19.	gestation) to her newborn (female) who had a completely asymptomatic course in India.	Asymptomatic Pregnant Woman in India. J Trop Pediatr. 2020;fmaa048. doi: https://doi.org/10.1093/tropej/fmaa048
Neurodevelopment, infant, preterm, Italy, telemedicine	25-Sep-20	Challenges and opportunities for early intervention and neurodevelopmental follow-up in preterm infants during COVID-19 Pandemic	Child: Care, Health and Development	Letter to the Editor	In accordance with the Italian Society of Neonatology guidelines, to reduce spread of COVID-19, many neonatal intensive care units (NICUs) are reducing access to the unit, allowing fewer visitors, and limiting the time they can stay. The authors share their experience ensuring parental presence and active engagement in the NICU environment, encouraging breastfeeding and skin-to-skin contact, and facilitating physical and emotional closeness between parents and their newborns amidst the COVID-19 pandemic. The authors also detail the neurodevelopmental follow-up programs implemented after NICU discharge through telemedicine, and describe the benefits of telemedicine for families of preterm children: facilitating communication between parents and staff, involving parents in the decision-making process, and serving as a channel for exchanging clinical and developmental information about the infant.	The authors describe their experience implementing neurodevelopmental follow-up programs after NICU discharge in Italy during the COVID-19 pandemic and explain the benefits of telemedicine for families of preterm children.	Caporali C, Pisoni C, Naboni C, Provenzi L, Orcesi S. Challenges and opportunities for early intervention and neurodevelopmental follow-up in preterm infants during COVID-19 Pandemic [published online 2020 Sep 25]. Child Care Health Dev. 2020. doi:10.1111/cch.12812
Pregnancy, obstetrics, vertical transmission, breastfeeding	23-Sep-20	Impact of COVID-19 on pregnancy and delivery — current knowledge	Ginekologia Polska	Review Article	This article summarizes several changes that occur to the immune system during pregnancy, current reports on the course of COVID-19 in pregnant women, and data regarding vertical transmission of SARS-CoV-2. The authors also include recommendations and suggestions for antenatal and perinatal care of pregnant women during the pandemic period. Based on the current research, the authors conclude that while pregnant patients with confirmed COVID-19 do not present significant differences in clinical symptoms or the course of the disease in relation to the general women's population, they are at risk of preterm delivery, premature rupture of membranes, or intra-uterine infection during pregnancy. They also conclude that vertical transmission is rare or unlikely, it is not recommended to routinely isolate healthy newborns from their suspected or COVID-19 positive mothers, and skin-to-skin contact and breastfeeding are possible if proper precautions are taken.	The authors summarize current literature on COVID-19 in pregnancy, concluding that there are obstetric risks associated (preterm delivery, intra-uterine infection) but that vertical transmission is not frequently observed and breastfeeding and skin-to-skin contact are possible with the proper precautions.	Krupa A, Schmidt M, Zborowska K, Jorg D, Czajkowska M, Skrzypulec-Plinta V. Impact of COVID-19 on pregnancy and delivery - current knowledge. Ginekol Pol. 2020;91(9):564-568. doi: 10.5603/GP.a2020.0127. PMID: 33030740.
Neonatal, infant, vertical transmission, breastfeeding, skin-to-skin	23-Sep-20	Newborn care during the COVID-19 pandemic must adapt as	Acta Paediatrica	Editorial	In developing guidelines for newborn care during the COVID-19 pandemic, the provision of high-quality care must be balanced with the prevention of viral transmission. The author discusses the April 2020 interim guidelines from the American Academy of Pediatrics (AAP), which recommended separation of infants from mothers and discouraged breastfeeding and skin-	The author discusses newborn care during the COVID-19 pandemic, and specifically the April 2020 interim guidelines from the American Academy of Pediatrics.	Shinwell ES. Newborn care during the COVID-19 pandemic must adapt as evidence accumulates. Acta

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care, United States		evidence accumulates			to-skin contact. While acknowledging that these guidelines were not evidence-based, the author states that they balanced major potential risks against potential benefits, in the complete absence of reliable data. He also reports that the guidelines advocated for neonatal rights to a safe and healthy environment, without discrimination. The author states that the AAP's recommendation to avoid direct breastfeeding but to allow the provision of expressed milk, also advocated for the rights of infants to a healthy start to life. Since the AAP guidelines were written, it has been recognized that pediatric and neonatal COVID-19 infection is less common and less severe than in adults, and vertical transmission appears to be rare. The author encourages the provision of breastmilk to infants, and direct breastfeeding if hygienic precautions are taken. He concludes that guidelines for neonatal care must incorporate the best available evidence.	While acknowledging that these guidelines were not evidence-based, the author states that they balanced potential risks against potential benefits, in the absence of reliable data.	Paediatr. 2020 Sep 23. doi: 10.1111/apa.15570. Epub ahead of print. PMID: 32969068.
Breastfeeding, breastfeeding support, formula, lockdown, maternal mental health, United Kingdom	23-Sep-20	Experiences of Breastfeeding During COVID-19: Lessons for Future Practical and Emotional Support	Maternal & Child Nutrition	Original Article	The authors conducted an online survey from May to June 2020 of 1219 breastfeeding mothers in the United Kingdom with neonates aged 0–12 months old to understand the impact of the COVID-19 pandemic on breastfeeding duration, experiences, and support. The results showed that 41.8% of mothers felt that breastfeeding was protected due to the lockdown. However, 27.0% of mothers struggled to get support during the lockdown, with some stopping breastfeeding before they were ready. Furthermore, mothers with lower education, with more challenging living circumstances, and from Black and minority ethnic backgrounds were more likely to find the impact of the lockdown challenging and subsequently stop breastfeeding. Therefore, these findings showed two very different experiences emerging from the COVID-19 lockdown. Some women felt more able to establish and maintain breastfeeding due to the lockdown, while other women felt that the lockdown created and exacerbated breastfeeding issues.	The authors' findings suggest that the COVID-19 lockdown had positive and negative effects on breastfeeding rates in the UK. These findings have important considerations for those working in breastfeeding support and policy, especially regarding disproportionately affected groups.	Brown A, Shenker N. Experiences of breastfeeding during COVID-19: Lessons for future practical and emotional support. Matern Child Nutr. 2020 Sep 23:e13088. doi: 10.1111/mcn.13088. Epub. PMID: 32969184.
Pregnancy, prenatal care, survey, United States	23-Sep-20	Pregnant Women's Reports of the Impact of COVID-19 on Pregnancy, Prenatal Care, and Infant Feeding Plans	MCN, The American Journal of Maternal/ Child Nursing	Article	This survey-based cross-sectional study describes how the COVID-19 pandemic has affected pregnancy, prenatal maternity care practices, and infant feeding plans among pregnant women in the United States. A survey link was emailed to Ovia Pregnancy app users on May 20, 2020 and was open for 1 week; survey questions related to pregnancy, breastfeeding, and maternity care received during the pandemic (February 2020 through the time of the survey). 258 respondents in 44 states completed the survey. 82.9% (n=214) of respondents were White, 85.6% (n=220) were non-Hispanic and mean age was 30.7 years (SD 4.3). 61.5% (n=158) had a Bachelor's degree or higher and 62% (n=160) were in their first pregnancy. 63.2% of respondents (n=148) believe the COVID-19 pandemic has affected their pregnancy. 12 participants (4.7%) reported being tested for COVID-19 during pregnancy, of which 11 tested negative and 1 had results pending. When asked where they get most of their information about COVID-19 and its impact on pregnancy and breastfeeding, healthcare provider was the leading response (25.4%; n=59), followed by the CDC (21%; n=49). 96.4% (n=251) felt they received safe prenatal care during this time period. 81.3% (n=208) reported being cared for by an obstetrician, and 92% (n=220) were planning a hospital birth. However, 4.2% (n=10 reported changing their	This survey-based cross-sectional study aimed to describe how the COVID-19 pandemic has affected pregnancy, prenatal maternity care practices, and infant feeding plans among pregnant women in the United States.	Burgess A, Breman RB, Bradley D. Pregnant Women's Reports of the Impact of COVID-19 on Pregnancy, Prenatal Care, and Infant Feeding Plans. MCN Am J Matern Child Nurs. 2020. doi: 10.1097/NMC.0000000000000673.

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					planned birth location to home or a different facility due to COVID-19 and another 10% (n=23) said they were considering a change. 74.3% (n=176) said their birth facility was allowing one support person with them during labor and birth, 20% (n=48) were not aware of facility policies, and 2.5% (n=6) said that no support people would be allowed. Of those who said they had an infant feeding plan (n=192), only 6 (3.1%) said their plan has changed due to COVID-19. Of the 6, 5 had previously planned to formula feed but were now switching to breastfeeding. Of those who had begun purchasing items for their infant, 52.7% (n=88) reported that the pandemic has affected their ability to obtain items, mainly due to shortage (80.7%; n=71).		
Italy; human milk; SARS-CoV-2; COVID-19;	22-Sep-20	Universal Screening for SARS-CoV-2 of all Human Milk Bank Samples	The Journal of Human Lactation	Letter to the Editor	In this study, the authors tested the role of sampling containers and human breast milk in the transmittance of SARS-CoV-2. They tested 34 external container samples (before sanitization) obtained between May 1-July 31, 2020 at the Bambino Gesu Children's Hospital in Rome, Italy, as well as 34 milk samples (before pasteurization). None of the samples tested positive for SARS-CoV-2. Thus, the authors deemed breastfeeding by mothers with suspected/confirmed COVID-19 to be a safe practice, assuming appropriate precautions, as they found no evidence of SARS-CoV-2 transmission through human milk. Since pasteurization effectively neutralized SARS-CoV-2, the authors concluded that Human Milk Bank practices are safe and would effectively reduce the risk of transmission of SARS-CoV-2 to neonates; however, screening of donor mothers should always be performed. They also concluded that donor milk is safe for use, given appropriate eligibility criteria are upheld for donor mothers and Holder pasteurization is performed.	In this study, the authors tested human breast milk from donors and the sampling containers for the transmittance of SARS-CoV-2. None of the samples tested positive for SARS-CoV-2. Thus, they determined that breastfeeding was a safe practice in mothers with suspected/confirmed COVID-19, assuming the adoption of appropriate measures, in addition to utilizing donor milk as long as eligibility criteria are met.	Salvatori G, De Rose DU, Amadio P, et al. Universal Screening for SARS-CoV-2 of all Human Milk Bank Samples. J Hum Lact. 2020 Sep 22:890334420962074. doi: 10.1177/08903344209 62074. Epub ahead of print. PMID: 32960123.
Breastfeeding, infant, vertical transmission, skin-to-skin, United States	22-Sep-20	Neonates and COVID-19	Journal of Pediatrics and Child Health	Commentar y	This author briefly comments on the uncertainty of COVID-19 transmission from mother to fetus or neonate. He mentions two case reports of the isolation of SARS-CoV-2 from amniotic fluid and placenta, and two cases of SARS-CoV-2 detection in the nasopharynx of neonates < 48 hours old, suggesting congenital infection may occur. The author then discusses an observational cohort study by Salvatore et al., of 120 neonates born to COVID-19 positive mothers in New York City, USA. Breastfeeding, skin-to-skin care, and rooming-in were allowed, with hygiene and infection control precautions. None of the neonates were COVID-19 positive at 24 hours of life. Of the 82 (68%) neonates followed up to days 5–7 after birth, 68 (83%) roomed in with their mothers and 64 (78%) were breastfeeding. Naso-pharyngeal PCR testing for SARS-CoV-2 was performed on 79 of the 82 neonates at 5–7 days of life and on 72 of the neonates at 14 days: all tests were negative. No infants were symptomatic. These data indicate that infection control measures could help prevent mother-to-infant transmission of SARS-CoV-2.	This author presents case reports that suggest congenital COVID-19 infection may occur. He also comments on an observational cohort study, which indicates that infection control measures could help prevent mother-to-infant transmission of SARS-CoV-2.	Neonates and COVID-19. J Paediatr Child Health. 2020 Sep 22. doi: 10.1111/jpc.15204. Epub ahead of print. PMID: 32959933.

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Chest CT scan, pregnancy, Turkey	21-Sep-20	The clinical findings and outcomes of symptomatic pregnant women diagnosed with or suspected of having coronavirus disease 2019 in a tertiary pandemic hospital in Istanbul, Turkey	The Journal of Obstetrics and Gynaecology Research	Original Research	The authors conducted this retrospective study at a hospital in Turkey, to describe the clinical course of symptomatic pregnant women with COVID-19. The study included 27 patients with RT-PCR-confirmed COVID-19, and 25 patients with suspected COVID-19 based on symptoms and chest CT findings. Participants were hospitalized between 25 March and 25 May 2020. The mean age of patients was 30 + 5.7 years (range 18-42 years), and gestational age ranged from 6w2d to 40w2d (mean 26w1d). The mean duration of hospitalization was 6.1 + 3 days. The most common symptom was cough (73.0%, n=38); fever occurred in 17.3% (n=9). 35 patients' CT scans suggested viral pneumonia. All patients received oxygen support, enoxaparin, and hydroxychloroquine treatment. Other antivirals and antibiotics were given as clinically indicated. 4 patients delivered vaginally, and 10 patients underwent a C-section, 4 of which were indicated for COVID-19 complications. 4 patients were admitted to ICU after C-section. Newborns were isolated from their mothers and given expressed breast milk, and all tested negative for COVID-19. The authors conclude that early hospitalization and treatment can improve the clinical course in symptomatic pregnant patients with suspected or confirmed COVID-19. Chest CT is suitable in pregnant women with suspected COVID-19 infection.	The authors conducted this retrospective study to describe the clinical course of symptomatic pregnant women with COVID-19. Early hospitalization and treatment can improve the clinical course in symptomatic pregnant patients with suspected or confirmed COVID-19.	Alay I, Yildiz S, Kaya C, Yasar KK, Aydin OA, Karaosmanoglu HK, Aydeniz B, Salihoglu O, Yaşar L, Ekin M. The clinical findings and outcomes of symptomatic pregnant women diagnosed with or suspected of having coronavirus disease 2019 in a tertiary pandemic hospital in Istanbul, Turkey. J Obstet Gynaecol Res. 2020 Sep 21. doi: 10.1111/jog.14493. Epub ahead of print. PMID: 32954601.
Neonate, vertical transmission, case report, Iran	21-Sep-20	Two seriously ill neonates born to mothers with COVID-19 pneumonia- a case report	Italian Journal of Pediatrics	Case Report	This case report presents two seriously ill neonates born by C-section from mothers with established COVID-19 pneumonia in Iran on March 3 and March 5, 2020 respectively. Laboratory tests showed lymphopenia with high LDH and hypocalcemia right after the birth. They had fever for days without responding to antibiotics and despite ruling out other potential causes. Both patients initially tested negative by RT-PCR for SARS-COV-2 (2 days and 1-hour post birth respectively) but were positive in the second round of testing (7 days and 12 days post birth respectively). Because of his mother's death, one neonate was fed formula exclusively; the other was fed by a nurse with the mother's expressed breastmilk with precautions in place such as washing hands, breast, and electric pump. Hydroxychloroquine was used to treat both patients. Based on the evidence, vertical transmission of COVID-19 for the neonates is less likely, although it cannot be completely ruled out. Although strict operational procedures were maintained to ensure the prevention of infection transmission during labor and after transfer to the isolated ward, horizontal transmission may be possible. Preterm neonates may have more severe COVID-19 symptoms compared to term neonates owing to a weaker immune system and priority should be given to clinical features of neonates, especially fever.	This case report presents two seriously ill neonates who were born by C-section from mothers with established COVID-19 pneumonia in Iran. Although initially showed negative, both patients gave positive RT-PCR results for SARS-COV-2 in the second round of testing. Only one of the infants was fed the mother's breastmilk, which was expressed with electric pump.	Sagheb S, Lamsehchi A, Jafary M. Two seriously ill neonates born to mothers with COVID-19 pneumonia-a case report. Ital J Pediatr. 2020; 46,137. doi: https://doi.org/10.1186/s13052-020-00897-2
China, breast milk, antibodies, breastfeeding	20-Sep-20	Clinical and immunologic features among COVID-19–affected mother–infant pairs: antibodies to SARS-CoV-2	New Microbes and New Infections	Original Research	This study aimed to assess the clinical and immunologic features, as well as the breastfeeding advice, recommended to mother-infant pairs. Observational analysis was conducted on 14 pregnant patients with laboratory-confirmed COVID-19 who delivered during hospitalization at a tertiary-care center in Wuhan, China. All pregnant patients had live births and recovered well, 4 of which continued breastfeeding while taking precautions. No neonatal infections were observed, and none of the infants developed COVID-19 while breastfeeding. Upon analysis of the mothers'	Based on the immunologic features of patients analyzed in this study, the authors concluded that antibodies to SARS-CoV-2 are passively transmitted through breast milk and there is a low risk of viral transmission through breast milk.	Gao X, Wang S, Zeng W, et al. Clinical and immunologic features among COVID-19–affected mother–infant pairs: Antibodies to SARS-CoV-2 detected in

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		detected in breast milk			breast milk and vaginal secretions, the SARS-CoV-2 genome was not found to be present in the samples. Interestingly, both IgM and IgG antibodies to SARS-CoV-2 were detected in breast milk, cord blood and neonatal serum. The authors state that these results indicate that passive acquisition of antibodies against SARS-CoV-2 is available by ingesting breast milk. Additionally, they concluded that breastfeeding has a low risk of transmitting the SARS-CoV-2 virus and encouraged breastfeeding with prudent precautions.		breast milk. New Microbes and New Infections. 2020;37:100752. doi: https://doi.org/10.1016/j.nmni.2020.100752.
Breastfeeding, breastmilk, human milk, antibodies, neutralizing capacity	18-Sep-20	COVID-19 and human milk: SARS-CoV-2, antibodies, and neutralizing capacity	medRxiv	Preprint (not peer-reviewed)	This prospective cohort study at several hospitals in the U.S. analyzed milk samples (n=37) and pre-wash breast swabs (n=70) from 18 women recently diagnosed with COVID-19 (34.2 ± 4.7 years old, 6.8 ± 7.8 months postpartum). Samples were analyzed for viral RNA using RT-qPCR, and milk was analyzed for anti-SARS-CoV-2 IgA and IgG reactive to the spike and nucleo-capsid proteins. No SARS-CoV-2 RNA was present in milk samples; however, viral RNA was detected on 8 breast swabs, though only 1 was considered conclusive. All milk contained SARS-CoV-2 specific IgA and IgG, and levels of anti-receptor binding domain IgA correlated with SARS-CoV-2 neutralization. The authors note that, while the data do not support vertical transmission of SARS-CoV-2 via milk, the risk of transmission via unwashed breast skin should be further evaluated. The authors support recommendations to continue hygienic breastfeeding during mild-to-moderate maternal COVID-19 illness, especially since milk from infected mothers is a source of anti-SARS-CoV-2 IgA and IgG.	This prospective cohort study in the U.S. found that breastmilk from infected mothers contained neutralizing anti-SARS-CoV-2 antibodies, and the authors recommend mothers with mild-to-moderate COVID-19 continue breastfeeding and follow hygiene guidelines. The study's data do not indicate vertical transmission via milk, although further study of risk of transmission via unwashed breast skin is recommended.	Ryan M Pace, Janet E Williams, Kirsi M Järvinen, et al. COVID-19 and human milk: SARS-CoV-2, antibodies, and neutralizing capacity. MedRxiv. 2020; doi: 10.1101/2020.09.16.20196071.
Placenta, maternal, vertical transmission, Switzerland, villitis, malperfusion	18-Sep-20	Placental Pathology Findings during and after SARS-CoV-2 Infection: Features of Villitis and Malperfusion	Pathobiology	Original Research	Since the beginning of the COVID-19 pandemic, there has been a debate about the risk for pregnant women and the possibility of vertical transmission through the placenta. The authors present a case series of 5 placentas from SARS-CoV-2 positive women diagnosed with either mild or asymptomatic disease before birth in Switzerland. They also provide a histopathologic description of morphological changes and an analysis of SARS-CoV-2 in the placental tissue. All the placentas were from term deliveries. One SARS-CoVo-2 positive patient presented with cough and dyspnea, and this placenta showed lymphohistiocytic villitis and intervillositis as well as signs of maternal-fetal malperfusion. Viral RNA was present in both the placental tissue and umbilical cord. SARS-CoV-2 tests were negative at the time of delivery for 3 of the 5 women, and their placentas did not show increased inflammatory infiltrates. Signs of maternal-fetal malperfusion were present in 100% and 40% of cases, respectively. Additionally, all tests for SARS-CoV-2 of umbilical cord blood, breast milk, and amniotic fluid were negative. There was no transplacental transmission to the infant. A varied spectrum of findings may be present in women infected with SARS-CoV-2 during pregnancy.	The authors describe a case series of 5 placentas from women who tested positive for SARS-CoV-2 before delivery. They determined that in acute COVID-19 infection, prominent lymphohistiocytic villitis may occur and be attributed to SARS-CoV-2 infection of the placenta. Furthermore, pathological findings of maternal-fetal malperfusion might indicated an altered coagulative state induced by SARS-CoV-2.	Menter T, Mertz KD, Jiang S, Chen H, Monod C, Tzankov A, Waldvogel S, Schulzke SM, Hösli I, Bruder E. Placental Pathology Findings during and after SARS-CoV-2 Infection: Features of Villitis and Malperfusion. Pathobiology. 2020 Sep 18:1-9. doi: 10.1159/000511324. Epub ahead of print. PMID: 32950981.
Vertical transmission, pregnancy, newborn, postpartum, Iran	17-Sep-20	Vertical transmission of COVID-19 in a 1-day-old neonate	Travel Medicine and Infectious Disease	Case Report	The authors share the case of a 29-year-old pregnant woman in Iran, with a history of hypothyroidism and gestational diabetes, who was admitted to the hospital in active labor at term. She had no COVID-19 symptoms and no known exposure to infected persons, although she did live in an area with high COVID-19 prevalence. A male neonate was born by C-section on 11 April 2020. He had no contact with the mother after delivery due to	This report presents the case of a term male neonate in Iran, who developed respiratory symptoms immediately after delivery and tested positive for COVID-19 on postpartum day 2. The authors	Bordbar A, Kashaki M, Rezaei F, Jafari R. Vertical transmission of COVID-19 in a 1-day-old neonate. Travel Med Infect Dis.

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					respiratory distress, and he was transferred to a NICU at a different hospital within 4 hours of birth. Biochemical testing was initially normal, but leukocytes decreased, and C-reactive protein increased on postpartum day 2. Antibiotic treatment was started. At this time, nasopharyngeal swabs were collected from the infant and mother, and both were positive for COVID-19. Testing of the umbilical cord and amniotic fluid was not available. The infant's respiratory symptoms started improving on postpartum day 3, and he began breastfeeding. He was discharged to home on postpartum day 4. Although it was not discussed within the article, the authors presumably believe this to be a case of vertical transmission of COVID-19, based on the report title.	presumably believe this to be a case of vertical transmission of COVID-19.	2020 Sep 17:101879. doi: 10.1016/j.tmaid.2020.101879. Epub ahead of print. PMID: 32950662.
Pregnancy, breastfeeding, counseling, social support, community health services, public health, primary health care, Belgium	17-Sep-20	SARS-CoV-2 Infections and Impact of the COVID-19 Pandemic in Pregnancy and Breastfeeding: Results from an Observational Study in Primary Care in Belgium	International Journal of Environmental Research and Public Health	Article	This cross-sectional observational study in Belgium aimed to assess the susceptibility of pregnant women to SARS-CoV-2 and the impact of the pandemic on breastfeeding practices, medical counseling and social support. Pregnant and breastfeeding women and women who breastfed in the preceding four weeks were eligible to participate. 2647 pregnant and 3823 breastfeeding women participated through an online survey in April 2020. Overall, 0.3% of all respondents reported to have tested positive for SARS-CoV-2, which does not indicate higher susceptibility. More than 90% refuted that the pandemic affected their breastfeeding practices. Half even considered giving breastmilk for longer because of COVID-19. In contrast, 53% of the pregnant women indicated that the pandemic influenced their current pregnancy follow-up to some extent. These women indicated less medical counseling from midwives (65%), obstetricians (62%), medical specialists (42%) and general practitioners (42%). 39% of the breastfeeding women reported an impact on the extent of social support they received. These women indicated less support from family (87%), friends (87%), perinatal organizations (86%), and maternity assistance at home (68%). There was a substantial difference in the total number of women reporting less social support according to the duration of breastfeeding (≤6 weeks: 73%; 6 weeks–6 months: 52%; >6 months: 12%; $p < 0.001$). Women without breastfeeding experience were more likely to report reduced social support during breastfeeding (45% vs. 34%; $p < 0.001$). The authors recommend alternative supportive measures such as tele-visits by midwives or perinatal organizations for these women.	This cross-sectional observational study in Belgium aimed to assess the susceptibility of pregnant women to SARS-CoV-2 and women's perceived impact of the pandemic on breastfeeding practices, medical counseling and social support. While a negative impact was reported on medical counseling and social support, no higher susceptibility of pregnant women to COVID-19 or negative impact on breastfeeding practices were found.	Ceulemans M, Verbakel JY, Calsteren KV. SARS-CoV-2 Infections and Impact of the COVID-19 Pandemic in Pregnancy and Breastfeeding: Results from an Observational Study in Primary Care in Belgium. Int J Environ Res Public Health. 2020;17(18), 6766. doi: https://doi.org/10.3390/ijerph17186766
COVID-19; pregnancy; birth companion	15-Sep-20	Role of birth companion in COVID-19: Indispensable for her and an auxiliary hand for us	The Pan African Medical Journal	Article	The authors discuss the importance of birth companions during the COVID-19 pandemic. According to the WHO, pregnant women, including those with presumed or confirmed SARS-CoV-2 infection, have the right to a 'safe and positive childbirth experience,' which includes a companion. The birth companion, as defined by the authors, is present at all times with the patient, from the initiation of labor through breastfeeding, and provides physical, psychological, and emotional support. As the pandemic continues, the number of infected antenatal females is expected to increase. If a birth companion is trained in basic intrapartum and postpartum observation and care, he/she can be utilized to minimize unnecessary patient-clinician interactions, and optimize health care staffing in this critical time. In this case, a trustworthy, asymptomatic birth companion should be identified	The authors discuss the importance of birth companions during the COVID-19 pandemic. If a birth companion is trained in basic intrapartum and postpartum observation and care, he/she can be utilized to minimize unnecessary patient-clinician interactions and optimize health care staffing in this critical time.	Kathuria P, Khetarpal A, Singh P. Role of birth companion in COVID-19: indispensable for her and an auxiliary hand for us. Pan Afr Med J. 2020;37:62. doi:10.11604/pamj.2020.37.62.23565.

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					before labor, and the clinical situation of the patient must be explained to him/her at the time of admission or labor. A written consent must be obtained to ascertain the companion's willingness to voluntarily participate, and explain the possibility of acquiring SARS-CoV-2 infection, its consequences, and the importance of following recommended precautions.		
Breastfeeding, transmission, mother-infant separation, neonatal, skin-to-skin contact, breast milk expressing	14-Sep-20	Breastfeeding during the COVID-19 pandemic – a literature review for clinical practice	International Breastfeeding Journal	Review	To plan and support breastfeeding during the COVID-19 pandemic, more needs to be understood about the clinical characteristics of COVID-19 as it applies to breastfeeding along with the protective properties of breastfeeding and the practice of skin-to-skin care. This review summarizes current evidence on the safety of breastfeeding during COVID-19 and uses this evidence to create guidelines for healthcare professionals and mothers. Current evidence states that SARS-CoV-2 is not transmitted via breastmilk. Breastmilk is beneficial to the infant's microbiome, reduces morbidity and mortality in diarrhea by 64%, and reduces the severity of Respiratory Syncytial Virus by 74% and its hospitalization by 72%. Skin-to-skin breastfeeding increases blood glucose levels 75–90 min after birth which improves cardio-respiratory stability, indicating the benefits of breastfeeding outweigh possible risks during the COVID-19 pandemic. General infection control measures (respiratory and hand hygiene) should be in place and adhered to strictly. If mothers are too ill to breastfeed, they should be supported to express their milk, and the infant should be fed by a healthy individual. Guidelines based on current evidence are available as a chart for quick clinical reference.	This review summarizes how to manage breastfeeding during COVID-19 and uses this evidence to create guidelines for healthcare professionals and mothers, available as a chart for quick clinical reference. Based on current evidence indicating no risk of SARS-CoV-2 transmission via breastmilk, the authors conclude that breastfeeding should be encouraged with skin-to-skin contact and mothers and infants should be cared for together.	Lubbe W, Botha E, Niela-Vilen H, Reimers P. Breastfeeding during the COVID-19 pandemic - a literature review for clinical practice. Int Breastfeed J. 2020;15(1):82. Published 2020 Sep 14. doi:10.1186/s13006-020-00319-3
Neonatal care, staff-parent communication, stress reduction, video messaging, family involvement, breastmilk expression, visitation restrictions	14-Sep-20	Asynchronous Video Messaging Promotes Family Involvement and Mitigates Separation in Neonatal Care	Archives of Disease in Childhood. Fetal and Neonatal Edition	Original Research	In light of the current COVID-19 pandemic and family visitation restrictions, the authors present the results of a multi-centered, neonatal study evaluating the changes in perception of the NICU experience by parents and staff with the addition of a secure, cloud-based asynchronous video messaging service. They utilized pre and post-implementation surveys in five level II-III neonatal units in the UK undertaken between July to November 2019 to measure factors such as parental experience, stress reduction, involvement in care, parent-staff relationships, and breastmilk expression. The authors observed high levels of self-reported stress by parents in the pre-implementation surveys. Post-implementation surveys revealed that 90% of the parents reported an overall positive impact of video messaging on their neonatal experience, including improved emotional closeness with their infant, relationships with staff, extended family involvement, anxiety, breastmilk expression, and sleep. The staff's pre-implementation survey revealed additional workload and service security concerns. Post-implementation, the staff surveys reported improved communication, trust, and expressions of appreciation between staff and parents. However, the staff did note a modest increase in workload and the need to balance parent expectations with workload realities.	This multicentered neonatal study evaluating the addition of an asynchronous video messaging service showed enhancement in both the parent's and the staff's neonatal care experience. The authors highlight that the use of this asynchronous video service may mitigate the consequences of family separation and be particularly relevant during COVID-19-induced visitation restrictions, not only in neonatal units, but also in adult and pediatric inpatient units.	Kirolos S, Sutcliffe L, Giatsi Clausen M, et al. Asynchronous video messaging promotes family involvement and mitigates separation in neonatal care [published online, 2020 Sep 14]. Arch Dis Child Fetal Neonatal Ed. 2020;fetalneonatal-2020-319353. doi:10.1136/archdischild-2020-319353
Breastfeeding, physical distancing,	14-Sep-20	Telelactation: A Necessary Skill With Puppet Adjuncts During	Journal of Human Lactation	Original Article	Due to social and physical distancing measures in place to prevent the spread of COVID-19, health care providers, including lactation support providers, are restricted in their ability to be physically close to their clients. The authors argue that a shift to tele-lactation is necessary in order to	The authors describe the advantages of tele-lactation such as lower cost, convenience, and accessibility, but tele-lactation is	Dhillon S, Dhillon PS. Telelactation: A Necessary Skill With Puppet Adjuncts

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puppet, tele-lactation		the COVID-19 Pandemic			continue to provide essential care. The transition to tele-lactation can be challenging, as demonstration and observation are optimal with physical presence. Tele-lactation has advantages such as lower cost, convenience, and accessibility, but tele-lactation is often viewed as a viable, yet inferior, form of care. The authors recommend the use of a simple hand puppet and knitted breast to aid in the tele-lactation consultations of breastfeeding women experiencing challenges around proper latch and positioning. By utilizing puppets and other demonstration devices, lactation support providers can enhance communication in tele-lactation consults between provider and client.	often viewed as a viable, yet inferior, form of care. In response to increasing tele-lactation consults due to COVID-19, the authors recommend lactation support providers utilize puppets and other demonstration devices to enhance communication between provider and client.	During the COVID-19 Pandemic [published online 2020 Sep 14]. J Hum Lact. 2020;890334420958623. doi:10.1177/0890334420958623
Breastfeeding, lactation training, prenatal breastfeeding education, telehealth	14-Sep-20	Ready, Set, BABY Live Virtual Prenatal Breastfeeding Education for COVID-19	Journal of Human Lactation	Case Study	This case report from the Carolina Global Breastfeeding Institute (CGBI) in North Carolina, US details adapting its prenatal education to an online format during the COVID-19 pandemic. CGBI modified its Ready, Set, BABY program for an internet platform and added WHO guidance for breastfeeding, pregnancy, and birth when COVID-19 is suspected or confirmed. The online adaptation allows lactation consultant students to complete their clinical hours by facilitating live presentations, approximately 1 hour each. One facilitator presents key content using video, voice, and visual aids, while the other facilitator interactively monitors a participant chat. New scripted questions were implemented to enhance interactive facilitation and assess the counseling needs of pregnant attendees. Participants also receive an electronic hyperlink that directs them to a toolkit booklet with critical information. CGBI will continue the online format to protect facilitators and attendees, despite facility re-openings. The authors suggest other programs adopt similar strategies and recommend the use of remote learning and telehealth services where available.	This case report details breastfeeding and prenatal education adapted for a remote learning format. The authors suggest breastfeeding support organizations adopt similar strategies and utilize remote learning and telehealth services to support expectant parents.	Palmquist AEL, Parry KC, Wouk K, et al. Ready, Set, BABY Live Virtual Prenatal Breastfeeding Education for COVID-19 [published online ahead of print, 2020 Sep 14]. J Hum Lact. 2020;890334420959292. doi:10.1177/0890334420959292
HIV, adolescents, children, family-centered, maternal, resource-constrained settings	12-Sep-20	Adapting HIV services for pregnant and breastfeeding women, infants, children, adolescents and families in resource-constrained settings during the COVID-19 pandemic	Journal of the International AIDS Society	Commentary	Countries with high HIV burden are balancing the need to minimize interactions with health facilities to reduce the risk of SARS-CoV-2 transmission while delivering HIV services. These adaptations in resource-constrained settings have not adequately accounted for the needs of pregnant and breastfeeding women, infants, children, and adolescents. The authors propose whole-family, tailored program adaptations along the HIV clinical continuum to protect the programmatic gains made in services. Essential HIV case-finding services for pregnant and breastfeeding women and children should be maintained. HIV self-testing for children≥ 2 years should be supported with caregiver and provider education. Adaptations include bundling services in the same visit and providing testing outside of facilities to reduce exposure risks. Virtual platforms can be used to identify vulnerable children and link them to support services. HIV treatment service adaptations for families should focus on family-based differentiated service delivery models, including community-based antiretroviral therapy (ART) initiation and multi-month ART dispensing. Tailored, family-friendly program adaptations for case-finding, ART delivery, and viral load monitoring for these populations have the potential to limit SARS-CoV-2 transmission while ensuring the continuity of HIV case identification and treatment efforts.	The authors propose whole-family, tailored program adaptations to limit SARS-CoV-2 transmission while ensuring the continuity of HIV services for pregnant and breastfeeding women, infants, children, adolescents and families in resource-constrained settings.	Vrazo AC, Golin R, Fernando NB, et al. Adapting HIV services for pregnant and breastfeeding women, infants, children, adolescents and families in resource-constrained settings during the COVID-19 pandemic. J Int AIDS Soc. 2020 Sep;23(9):e25622. doi: 10.1002/jia2.25622.
Pediatrics, COVID-19,	11-Sep-20	Clinical pearls for COVID-19 in	Pediatric Research	Correspondence	This correspondence highlights key findings from recent studies for pediatricians caring for children with suspected COVID-19 [age range not	This correspondence highlights key findings from recent studies for	Verma R, Amin R. Clinical pearls for

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signs, symptoms, treatment, key findings		children: what do pediatricians need to know?			specified]. Despite relatively mild illness severity, providers must be aware of novel inflammatory syndromes in children, specifically MIS-C. MIS-C is believed to be an aberrant acquired immune response to SARS-CoV-2. This explains why most affected children have positive antibody results yet a negative PCR test. Children with MIS-C have been treated with IV immunoglobulin, aspirin, corticosteroids, and/or immunomodulators. Up to 1/2 of these children may develop shock requiring admission to ICUs for inotropic support. Clinical presentation, laboratory investigations, and radiologic findings in children differ from adults. A US report of 291 children with confirmed COVID-19 found that the most common symptoms were fever (56%) and cough (54%). Nearly 1/3 of children had gastro-intestinal complaints of abdominal pain, nausea/vomiting, and diarrhea. Other symptoms included rhinorrhea, sore throat, headache, and myalgia. These figures vary greatly from adults in the same report, in whom fever and cough were reported in 71% and 80% of patients. Neonates are at a greater risk of severe illness and require special considerations. There is currently no evidence to suggest prenatal vertical transmission of SARS-CoV-2; the transmission of SARS-CoV-2 to neonates is thought to be postnatal from infected mothers and other close contacts. The CDC does not prohibit infected mothers from breastfeeding their newborns as long as mothers follow appropriate respiratory etiquette. Clinical signs of SARS-CoV-2 in neonates include fever, lethargy, increased work of breathing, vomiting, diarrhea, and feeding intolerance. With the re-opening of public areas and schools, providers must continue to focus on keeping children healthy and resilient.	pediatricians caring for children with suspected COVID-19. Clinical symptoms of COVID-19 differ in children when compared to adults and can manifest as MIS-C. The authors find that neonates are at greater risk for severe COVID-19 illness.	COVID-19 in children: what do pediatricians need to know? [published online, 2020 Sep 11]. Pediatr Res. 2020;10.1038/s41390-020-01123-9. doi:10.1038/s41390-020-01123-9
Newborn, breastfeeding, cesarean delivery, Spain	11-Sep-20	Maternal, Perinatal and Neonatal Outcomes With COVID-19: A Multicenter Study of 242 Pregnancies and Their 248 Infant Newborns During Their First Month of Life [Free Access to Abstract Only]	The Pediatric Infectious Disease Journal	Original Article	The authors describe the clinical features of mothers with COVID-19 infection during pregnancy or delivery and potential vertical transmission. The multicenter descriptive study involved 16 hospitals in Spain, and the authors reviewed the medical records of 242 pregnant women diagnosed with COVID-19 via RT-PCR from March 13-May 31, 2020, when they were in their third trimester of pregnancy. Mothers and their 248 newborn infants were monitored until the infant was 1 month old. C-sections were performed on 26% of women. The most frequently presented symptoms during pregnancy or labor were coughing (33%) and fever (29.7%). Mothers hospitalized due to COVID-19 pathology (compared to those hospitalized for other reasons such as labor or pregnancy complications) had a higher risk of ending their pregnancy via C-section (P = 0.027). Newborns whose mothers had been admitted due to their COVID-19 infection had a higher risk of premature delivery (P = 0.006). No infants died and no vertical transmission or transmission to infant within the first month of life was detected. Exclusive breastfeeding rates were 41.7% among newborns at discharge and 40.4% among at 1 month of age	The authors conducted a multicenter descriptive study of 242 women diagnosed with COVID-19 during gestation or delivery in Spain. Women hospitalized with COVID-19 were more likely to deliver via C-section and had a higher risk of premature delivery compared to COVID-19 positive pregnant women who were hospitalized for other reasons. Exclusive breastfeeding rates were 41.7% among newborns at discharge.	Marín Gabriel MA, Reyne Vergeli M, Caserío Carbonero S, et al. Maternal, Perinatal and Neonatal Outcomes With COVID-19: A Multicenter Study of 242 Pregnancies and Their 248 Infant Newborns During Their First Month of Life. Pediatr Infect Dis J. 2020. doi:10.1097/INF.0000000000002902

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India, neonatal, breastfeeding, transmission	10-Sep-20	Clinical profile, viral load, management and outcome of neonates born to COVID-19 positive mothers: a tertiary care center experience from India	European Journal of Pediatrics	Original Research	Through this study, the authors aimed to describe the clinic-demographic profile and viral load of neonates born to COVID-19 positive mothers in India from April 1 – July 10, 2020. Of the 65 tested neonates, 7 were confirmed COVID-19 positive via RT-PCR. However, they showed milder clinical manifestations despite the viral load being comparable to adults. 6 out of 7 neonates, all of whom were discharged, were asymptomatic. One required respiratory support which resolved after 48 hours. Maternal viral load was not found to be associated with the positivity status or severity of the illness of the neonate. Since neonatal samples were not taken > 12 hours after birth, neonatal infection could not be classified as acquired intrapartum. The authors identify the limitations arising from lack of formal and serial evaluation of neonatal bio samples. This may be needed for accurate diagnosis and classification of COVID-19 in neonates and may cause underestimation of vertical transmissions. In this cohort, maternal viral load did not appear to be associated with the positivity status or the severity of illness in neonates. This supports the milder clinical manifestations of COVID-19 in neonates, with a low risk of transmission from the COVID-19 positive mother via rooming-in and breastfeeding.	The authors observed that 7 of the 65 neonates born to COVID-19 positive mothers tested positive for COVID-19. This, in conjunction with the lowered maternal transmission despite breastfeeding and rooming-in, supports the milder clinical presentation of COVID-19 in neonates despite comparable viral loads.	Anand P, Yadav A, Debata P, et al. Clinical profile , viral load , management and outcome of neonates born to COVID 19 positive mothers : a tertiary care centre experience from India. Eur J Pediatr. 2020. doi:https://doi.org/10.1007/s00431-020-03800-7
SARS-CoV-2, vertical transmission, breastmilk, pregnancy, China	9-Sep-20	A systemic review of vertical transmission possibility in pregnant women with coronavirus disease 2019-positive status	Journal of Family Medicine and Primary Care	Review Article	Through a systematic review of 9 articles and case reports comprising a total of 74 pregnant patients with COVID-19, these authors investigated whether vertical transmission of SARS-CoV-2 occurred from mother to fetus. 3 of the included articles focused on China. The authors present a table that organizes the reviewed research by the following categories: Maternal RT-PCR positive for SARS-CoV-2, Neonates RT-PCR positive for SARS-CoV-2, Maternal trimester, and CT findings. 72 mothers tested positive for SARS-CoV-2, and the remaining 2 had a clinical diagnosis of COVID-19. Pregnant patients who were positive for SARS-CoV-2 displayed no unusual clinical manifestations compared to the non-pregnant population. 75 neonates were reviewed (one set of twins). All neonates had mothers who either tested positive for SARS-CoV-2 or were clinically diagnosed with COVID-19. 74 of the neonates tested were negative for SARS-CoV-2. There was one exception that tested positive via RT-PCR of a throat swab. However, this infant's cord blood, placenta, and mother's breast milk tested negative for SARS-CoV-2. The cause of the positive test remains unknown. Based on this systematic review, SARS-CoV-2 vertical transmission appears unlikely. COVID-19 may have other negative impacts on pregnancy, such as fetal distress, premature labor, and neonatal respiratory distress.	The authors conducted a systematic review of 9 studies to determine the possibility of vertical transmission of SARS-CoV-2. They conclude that vertical transmission appears unlikely. Of all 75 infants who had mothers either positive for SARS-CoV-2 or clinically diagnosed with COVID-19, 74 infants tested negative. For the 1 infant who tested positive, cord blood, placenta, and mother's breast milk all tested negative for SARS-CoV-2.	AlQahtani MA, AlDajani SM. A systemic review of vertical transmission possibility in pregnant women with coronavirus disease 2019-positive status. J Family Med Prim Care. 2020;9(9):4521-4525. Published 2020 Sep 30. doi:10.4103/jfmpc.jfmpc_475_20
Neonatal management, postnatal nutrition, guidelines	9-Sep-20	Management and Nutrition of Neonates during the COVID-19 Pandemic: A Review of the Existing Guidelines and Recommendations	American Journal of Perinatology	Original Article	The authors of this study aimed to review the current available guidelines and scientific recommendations regarding the neonatal in-hospital management and feeding during the COVID-19 pandemic. They searched available databases (Medline, Embase, and national/international neonatal societies websites) for guidelines. Eleven guidelines on neonatal management and feeding to COVID-19 positive mothers were included. The Chinese and American recommendations suggest separation of the mother and her neonate, whereas in French, Italian, UK, Canadian, and World Health Organization consensus documents suggested rooming-in. CDC (USA) guidelines suggest deciding on a case-by-case basis. All the guidelines	This study compares guidelines on management and nutrition of a newborn to a mother with SARS-CoV-2 infection. The existing guidelines show many differences, and the majority of recommendations are based on experts' opinions and are not evidence-based.	Genoni G, Conio A, Binotti M, et al. Management and Nutrition of Neonates during the COVID-19 Pandemic: A Review of the Existing Guidelines and Recommendations. Am J Perinatol.

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		[Free abstract only]			recommend breastfeeding or feeding with expressed maternal milk; the only exception is the Chinese recommendations, these suggesting avoiding breastfeeding. This review provides a useful tool for clinicians and organizers, highlighting differences and similarities of the existing guidelines on the management and feeding strategies in the light of the COVID-19 pandemic.		2020;37(S 02):S46-S53. doi:10.1055/s-0040-1714675
Singapore, breastfeeding	8-Sep-20	Breastfeeding in COVID-19: A Pragmatic Approach	American Journal of Perinatology	Clinical Opinion	This article discusses breastfeeding for mothers with COVID-19. There is no evidence that COVID-19 can be transferred via breastmilk, but the mother should adopt infection control measures such as wearing facemasks and hand washing when breastfeeding. There are still uncertainties as to how to best manage breastfeeding, and as such the authors present three options. Option A includes direct breastfeeding and direct care by the mother; Option B includes giving the infant the mother's milk while s/he is cared for by a healthcare provider (HCP) or caregiver with limited mother-infant contact; and Option C requires the infant to receive no milk from the mother and have little mother-infant contact. The option of which breastfeeding plan to engage in should be made between the mother, her partner, and HCP. Proper guidance, counseling, and breastfeeding education should be provided by the HCP. The WHO and many national health authorities encourage breastfeeding with reasonable precautions, and the authors similarly recommend direct breastfeeding and care provided by the mother, with reasonable precautions.	Evidence would indicate that COVID-19 is likely not transmitted through breastmilk, and breastfeeding should be encouraged with reasonable precautions to reduce viral transmission.	Ng YPM, Low YF, Goh XL, Fok D, Amin Z. Breastfeeding in COVID-19: A Pragmatic Approach [published online 2020 Sep 8]. Am J Perinatol. 2020;10.1055/s-0040-1716506.
Sepsis, neonatal medicine, neonatal infection, prevention	8-Sep-20	Advances in Neonatal Infections [Free Access to Abstract Only]	American Journal of Perinatology	Article	Although there have been many advances in the diagnosis, prevention, and treatment of neonatal infections, neonatal sepsis remains a leading cause of mortality. The challenge has been that each decade, newer resistant bacteria dominate as the cause of sepsis and newer viruses emerge, such as SARS-CoV-2. Hand hygiene remains the benchmark and gold standard for late-onset sepsis prevention. Future treatment options might include stem cell therapy, antimicrobial protein and peptides, and targeting pattern recognition receptors. Additionally, the microbiome of premature infants has a smaller proportion of beneficial bacteria and higher numbers of pathogenic bacteria compared with term infants, likely owing to higher frequencies of C-sections, antibiotic use, exposure to the hospital environment, and feeding nonhuman milk products. The authors recommend modifying the microbiome with more mother's milk and shorter duration of antibiotics in noninfected infants.	This article reviews the diagnosis, prevention, and treatment of neonatal sepsis, which can be caused by SARS-CoV-2 infection. The authors recommend frequent handwashing and promotion of a healthy microbiome in premature infants with breastmilk and shorter durations of antibiotics in noninfected infants.	Fanaroff AA, Fanaroff JM. Advances in Neonatal Infections [published online, 2020 Sep 8]. Am J Perinatol. 2020;37(S 02):S5-S9. doi:10.1055/s-0040-1715584
Influenza vaccine, co-circulation, pediatric vaccine, breastfeeding, pregnancy, American Academy of	8-Sep-20	Recommendations for Prevention and Control of Influenza in Children, 2020-2021	Pediatrics	Policy Statement	This statement is an update on the American Academy of Pediatrics recommendations for the routine use of influenza vaccines and antiviral medications in the prevention and treatment of influenza in children, who historically have the highest attack rates, during the 2020-2021 influenza season in the US. The current recommendation is immunization of all children without medical contra-indications starting at 6 months of age. For the 2020-2021 season, there is no preference for one product or formulation over another given that it is licensed, recommended, and age-appropriate. The impact of the SARS-CoV-2 co-circulation with influenza is unknown at this time; this policy statement discusses important factors in determining	The American Academy of Pediatrics has updated its recommendation for pediatric influenza vaccines for the 2020-2021 season. No preference has been given to a specific pediatric vaccine; pregnant and postpartum women should be vaccinated to protect themselves and their infants through passive immunity.	Committee on Infectious Diseases. Recommendations for Prevention and Control of Influenza in Children, 2020-2021 [published online ahead of print, 2020 Sep 8]. Pediatrics. 2020;e2020024588.

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Pediatrics (AAP), USA					impacts such as identifying high-risk groups, vaccine timing/dosing, composition, implementation, and effectiveness. Additionally, recommended influenza vaccines during any trimester of pregnancy can provide protection to infants during the first 6 months of life when they are too young to receive influenza vaccines themselves. Further, vaccination while breastfeeding is safe for mothers and their infants and is strongly recommended to protect infants against influenza viruses by activating innate antiviral mechanisms. The statement concludes by outlining the key recommendations and highlights the importance of pediatric influenza vaccinations this season.		doi:10.1542/peds.2020-024588
Angiotensin-converting enzyme 2 (ACE2), pneumonia, neonates, pregnancy, obstetrics	7-Sep-20	The changing landscape of SARS-CoV-2: Implications for the maternal-infant dyad	Journal of Neonatal-Perinatal Medicine	Review	The rate of rapid dissemination of SARS-CoV-2, magnitude of viral contagiousness, and person-to-person transmission at an asymptomatic phase of illness pose unique challenges for neonatal and obstetric patients. This review covers the microbiology, immunology, and pathophysiology of SARS-CoV-2 in the context of pregnancy, clinical presentations of COVID-19 in pregnant women, pregnancy outcomes, pregnancy-specific transmission, the impact of COVID-19 on neonates, and strategies to modulate COVID-19 in the perinatal setting. Altered hormone status and predominance of Th-2 immune helper cells may result in increased predisposition to SARS-CoV-2 infection but a less severe COVID-19 clinical phenotype in pregnant women in comparison to non-pregnant women. Evidence of vertical transmission to the fetus is inconclusive and controversial. Neonatal reports demonstrate an inconsistent and non-specific phenotype, and it is often difficult to separate COVID-19 from the underlying conditions of prematurity or bacterial infection. Guidelines for infant care include protocols for delivery room precautions, separation, breast feeding, newborn testing, discharge, and infant visitation. The development of international registries to enable risk profiling of COVID-19 positive pregnant mothers and their offspring may facilitate the development of enhanced mitigation strategies, medical treatments, and effective vaccinations.	This review covers the microbiology, immunology, and pathophysiology of SARS-CoV-2 in the context of pregnancy, clinical presentations of COVID-19 in pregnant women, pregnancy outcomes, pregnancy-specific transmission, the impact of COVID-19 on neonates, and strategies to modulate COVID-19 in the perinatal setting.	Elgin TG, Fricke EM, Hernandez Reyes ME, et al. The changing landscape of SARS-CoV-2: Implications for the maternal-infant dyad. J Neonatal Perinatal Med. 2020;13(3):293-305. doi: 10.3233/NPM-200460. PMID: 32417802.
Newborn infant, equity, protection, infant care, postpartum care, pregnancy, distribution	7-Sep-20	Protecting newborn infants during the COVID-19 pandemic should be based on evidence and equity	Acta Paediatrica	Perspective	Despite efforts to reduce the risk of viral transmission of SARS-CoV-2, there persist concerns about protecting vulnerable populations such as pregnant and postpartum women, newborn infants, and the healthcare workers that care for them. Recently, potentially harmful measures related to infant care have been implemented across health systems such as discouraging skin-to-skin contact, breastfeeding and separating newborn infants from their mothers and family members immediately after childbirth. The authors discuss the impacts and equitable distribution of mitigation efforts. Previous research suggests resources have not been equitably distributed across health facilities, which has led to sub-standard infection control at many under-funded and over-burdened facilities. Further, there has been evidence of case profiling based on family characteristics and perceived social status rather than scientific risk and/or test results. The authors suggest that moving forward, families should be given the most recent information and should be available in a range of languages, literacy levels, and formats. The authors conclude by suggesting that if mitigation measures are necessary	The authors suggest that a lack of equitable distribution of protection and mitigation efforts for newborns during the COVID-19 pandemic has led to sub-standard infection control at under-funded and over-burdened health facilities. Future efforts should be based on up-to-date science and distributed equitably.	Sacks E, Sripad P, Ndwiga C, Waiswa P, Warren CE. Protecting newborn infants during the COVID-19 pandemic should be based on evidence and equity [published online ahead of print, 2020 Sep 7]. Acta Paediatr. 2020;10.1111/apa.15568. doi:10.1111/apa.15568

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					during the pandemic, they should be based on science and applied equitably as well as additional efforts to build better, more inclusive health systems.		
Rooming-in, breastfeeding, Turkey	4-Sep-20	COVID-19 Management in Newborn Babies in the Light of Recent Data: Breastfeeding, Rooming-in and Clinical Symptoms	Sisli Etfal Hastanesi tip Bulteni	Review	This review summarizes known findings regarding the epidemiology and treatment of COVID-19 in infants [ages not specified], with experiences of the Sisli Hamidiye Etfal Teaching and Research Hospital in Turkey. SARS-CoV-2 is predominantly transmitted via droplets, and while it has not been definitively proven whether trans-placental transmission during pregnancy can occur, the evidence suggests it cannot. Vertical transmission is rare but possible, as shown in a series of studies in Turkey regarding COVID-19 in pregnancy that detected virus in the tracheal aspirate of infants on their first day of life. While the presence of SARS-CoV-2 is unlikely in breastmilk, more research is needed as to whether the infection can be transmitted to the infant through breastfeeding. Women who choose to breastfeed should take IPC precautions (hand hygiene, wiping the breast, mask-wearing) and the authors recommend allowing breastfeeding if the mother has not had fever in the last 72 hours that would require antipyretic and if major respiratory symptoms have regressed. Infants and mothers with COVID-19 should remain separate from other patients, although evidence would suggest that mothers and infants need not be separated after birth if appropriate measures are taken, such as mask-wearing and keeping the baby 2 meters (6 feet) away when not being breastfed. The effects of COVID-19 in the early fetal period are unknown. SARS-CoV-2 infections in infants and children are usually more mild than those in adults, and infants diagnosed with COVID-19 show symptoms of fever, hypoxemia, cough, tachypnea, and less frequently feeding difficulty, retraction, nasal congestion and exanthema. Management of SARS-CoV-2 positive infants should include monitoring and the use of neutral pressure rooms, and in the case of the authors' hospital in Turkey, women began breastfeeding their infants after 2 consecutive, negative COVID-19 tests.	This review summarizes the known findings regarding the epidemiology and treatment of COVID-19 in infants, with experiences of the Sisli Hamidiye Etfal Teaching and Research Hospital in Turkey. The authors provide recommendations for breastfeeding, rooming in, and the management of SARS-CoV-2 in infants.	Bulbul A, Agirgol E, Uslu S, et al. COVID-19 Management in Newborn Babies in the Light of Recent Data: Breastfeeding, Rooming-in and Clinical Symptoms. Sisli Etfal Hastan Tip Bul. 2020;54(3):261-270. Published 2020 Sep 4. doi:10.14744/SEMB.2020.90267
Breastfeeding, antivirals, Vitamin D	4-Sep-20	Antivirals for COVID-19 and Breastfeeding	Breastfeeding Medicine	Article	Many drugs are being investigated for treatment of COVID-19. This article reviews the current evidence regarding the safety of the most prominent drugs used to treat COVID-19 while breastfeeding. There is robust data to support the safety of famotidine, vitamin D, interferons, and antimalarials during breastfeeding, although data is more limited for chloroquine. Antibody therapies such as IV immune globulin and convalescent plasma have been shown to be safe; only monoclonal antibodies could be problematic, although the author considers risk to be minimal. Ivermectin and azithromycin are not expected to cause adverse reactions because quantities found in breastmilk are negligible. Data is limited on the use of HIV protease inhibitors; lopinavir has been the best studied and no adverse events have been reported. There is no current evidence on the safety of nitazoxanide, but evidence shows it is detectable in maternal plasma. Newborn infants have received IV remdesivir therapy for Ebola with no serious adverse drug reactions; however, until more data are available, remdesivir should be used with careful infant monitoring during breastfeeding. Favipiravir is contra-indicated in pregnant women, and is	This article reviews the current evidence regarding the safety of the most prominent drugs used to treat COVID-19 while breastfeeding. The author covers remdesivir, favipiravir, HIV protease inhibitors, interferons, antibody therapies, famotidine, antimalarials, azithromycin, ivermectin, nitazoxanide, and vitamin D.	Anderson PO. Antivirals for COVID-19 and Breastfeeding [published online, 2020 Sep 4]. Breastfeed Med. 2020. doi:10.1089/bfm.2020.0268

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					expected to appear in breast milk and be absorbed by the infant; therefore, typical adverse events should be monitored.		
Newborn, NICU, New York, USA	3-Sep-20	Characteristics of Newborns Born to SARS-CoV-2-Positive Mothers: A Retrospective Cohort Study	American Journal of Perinatology	Original Article	The authors describe the characteristics of newborns born to SARS-CoV-2 positive mothers at Brookdale Hospital Medical Center, New York, USA, from March to May 2020. The results showed that of the 79 mothers tested for SARS-CoV-2 in this study, 15 (18.98%) were positive. Also, 40% of SARS-CoV-2 positive mothers had mild-to-moderate disease, and 60% were asymptomatic. Interestingly, only one newborn from a SARS-CoV-2-positive mother tested positive and was unstable in the neonatal intensive care unit. The authors noted that only 20% of SARS-CoV-2-positive mothers had skin-to-skin contact with their newborns, compared with 76.6% of SARS-CoV-2 -negative mothers ($p < 0.001$). Furthermore, 73.3% of newborns from SARS-CoV-2-positive mothers were isolated compared with 23.4% from SARS-CoV-2-negative mothers ($p < 0.001$). The authors observed that newborns of SARS-CoV-2 positive mothers were three times more likely to have oxygen desaturations than newborns from negative mothers. Also, newborns of SARS-CoV-2-positive mothers were four times more likely to have poor feeding than newborns of SARS-CoV-2-negative mothers. Finally, newborns of SARS-CoV-2-positive mothers were ten times more likely to be symptomatic at the 2-week follow-up.	This study suggests that although neonates born to mothers with confirmed or suspected SARS-CoV-2 are mostly asymptomatic, critical illness is still possible. The authors recommend testing these newborns at least 24 hours after birth and monitoring them for the development of symptoms for 14 days after birth.	Farghaly MAA, Kupferman F, Castillo F, Kim RM. Characteristics of Newborns Born to SARS-CoV-2-Positive Mothers: A Retrospective Cohort Study [published online 2020 Sep 3]. Am J Perinatol. 2020;doi:10.1055/s-0040-1715862
Breastfeeding, Coronavirus Infections, Coronavirus, SARS Virus, Maternal-Child Nursing, SARS-CoV-2	1-Sep-20	Overview on the Recommendations for Breastfeeding and COVID-19	Journal of Human Growth and Development	Review	The authors of this scope review study, received for publication in May 2020, aim to describe the recommendations about breastfeeding during SARS-CoV-2 infection and to provide different authors' views on the breastfeeding process around the world during the SARS-CoV-2 pandemic. The authors reviewed scientific articles published in several databases including National Library of Medicine (MEDLINE/PubMed) and Literature Latin American and Caribbean Health Sciences (LILACS). In total 22 publications were included, 11 of which were scientific articles. The results found that the discussion on SARS-CoV-2 viral transmission through breastfeeding is controversial, and recommendations vary by country. China and Portugal adopted more preventive measures and advised against breastfeeding, even in infected mothers without symptoms. On the other hand, the WHO issued guidelines encouraging breastfeeding, even in women infected with SARS-CoV-2, with respiratory measures in place to prevent newborn contamination. The United States CDC aligns with the WHO recommendations and adds that the decision to initiate or continue breastfeeding must be made by the mother, family, and healthcare team. In conclusion, due to little scientific data on the topic at the time of the article, each country has needed to decide the strategy that best fits its reality.	This scope review study, received for publication in May 2020, aims to describe the recommendations about breastfeeding during SARS-CoV-2 infection and to provide different authors' and countries' views on breastfeeding processes during the SARS-CoV-2 pandemic. Due to little scientific data on the topic at the time of the article, each country has needed to decide the strategy that best fits its reality.	Mocelin HJS, Primo CC, Laignier MR. Overview on the recommendations for breastfeeding and COVID-19. J Hum Growth Dev. 2020; 30(3):335-343. doi: 10.7322/jhgd.v30.11060.
Breastfeeding, vertical transmission, neonatal care, breast milk expressing	1-Sep-20	Possibility of SARS-CoV-2 transmission from the breast milk of COVID-19 affected women patients to their	Le Infezioni in Medicina (InfezMed)	Editorial	The rapid progression of the COVID-19 pandemic has left pregnant women in fear regarding breastfeeding and neonatal care. The authors review existing evidence from various countries on the safety of breastfeeding and vaginal delivery during the COVID-19 pandemic. There is limited evidence of SARS-CoV-2 transmission by vaginal delivery, and placental examination did not reveal SARS-CoV-2 in the cases analyzed. Recommendations against breastfeeding without conclusive evidence may lead to severe newborn	The authors review existing evidence from various countries on the safety of breastfeeding and vaginal delivery during the COVID-19 pandemic. The authors do not recommend abstaining from breastfeeding if the mother's	Patel SK, Pathak M, Rana J, et al. Possibility of SARS-CoV-2 transmission from the breast milk of COVID-19 affected women patients to their

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		infants: worries and strategies to counter it			health issues and detrimental effects on the early development of the child. Considering the nutritional benefits and strong protective effect of passive immunity via breast milk against infectious agents, the Centers for Disease Control and the World Health Organization advise that breastfeeding of infants, even in case of suspected or confirmed COVID-19 infected mothers, should be determined by the mother, her family, and healthcare supervisors while taking all possible preventive measures such as wearing a mask, washing of hands and breasts with soap and water along with the adoption of good personal hygiene before breastfeeding. If the mother's health does not allow breastfeeding, then milk expression should be carried out and fed unpasteurized to the infant following proper cleaning of breasts, utensil, and pumps.	health allows it, due to known health benefits and a lack of evidence of SARS-CoV-2 transmission via breast milk. Based on current evidence, the authors consider vaginal delivery to be safe for pregnant women with COVID-19.	infants: worries and strategies to counter it. Infez Med. 2020 Sep 1;28(3):291-294. PMID: 32920563.
S1 and S2 subunits, nucleocapsid protein reactive SIgM/IgM, IgG and SIgA/IgA antibodies, human milk	1-Sep-20	Difference in Levels of SARS-CoV-2 S1 and S2 subunits- and nucleocapsid protein-reactive SIgM/IgM, IgG and SIgA/IgA Antibodies in Human Milk	Journal of Perinatology	Original Research	The authors examined the presence and levels of SIgM/IgM, IgG, and SIgA/IgA reactive to both SARS-CoV-2 S1 and S2 subunits (S1 + S2) and nucleocapsid protein in human milk collected during the COVID-19 pandemic in 2020 and 2 years before the outbreak. They compared these antibody levels between vaccinated and unvaccinated mothers and between women who had symptoms of viral respiratory infections during the year and women without symptoms. The levels of SARS-CoV-2 S1 + S2- and nucleocapsid-reactive SIgM/IgM, IgG, and SIgA/IgA were measured in human milk samples from 41 women during the COVID-19 pandemic (2020-HM) and from 16 women two years before the outbreak (2018-HM). All women in the study lived in the United States and were approved donors through Mothers Milk Cooperative (Boulder City, Nevada, USA). The results showed that SARS-CoV-2 S1 + S2-reactive SIgA/IgA, SIgM/IgM and IgG were detected in 97.6%, 68.3% and 58.5% in human milk whereas nucleocapsid-reactive antibodies were detected in 56.4%, 87.2% and 46.2%, respectively. Also, S1 + S2-reactive IgG was higher in milk from women with viral respiratory infection symptoms during the last year than in women without symptoms. Furthermore, S1 + S2- and nucleocapsid-reactive IgG were higher in the 2020-HM group than in the 2018-HM group.	This study revealed that antibodies reactive to SARS-CoV-2 S1 + S2 and nucleocapsid were detected in a high proportion of human milk. The presence of SARS-CoV-2-reactive antibodies in human milk could provide passive immunity to breastfed infants and protect them against COVID-19.	Demers-Mathieu V, Dung M, Mathijssen GB, et al. Difference in levels of SARS-CoV-2 S1 and S2 subunits- and nucleocapsid protein-reactive SIgM/IgM, IgG and SIgA/IgA antibodies in human milk [published online ahead of print, 2020 Sep 1]. J Perinatol. 2020;doi:10.1038/s41372-020-00805-w
Immunology, breast milk, breast feeding, maternal-child pair, passive immunity, pregnancy, lactation period	1-Sep-20	Clinical and Immunological Features Among COVID-19 Affected Mother-infant Pairs: Antibodies to SARS-CoV-2 detected in breast milk.	New Microbes and New Infections	Original Research	The authors analyzed the clinical and immunological features, including the infection risk through breastmilk, of pregnant women with COVID-19 and their neonates at the Tongji hospital affiliated with Huazhong University of Science and Technology, Wuhan, China. They retrospectively collected data on 7 pregnant patients with laboratory-confirmed COVID-19 between January 19 to February 7, 2020. The authors also enrolled 13 pregnant women with laboratory-confirmed COVID-19 and followed them from baseline until April 5, 2020. Self-pumped breastmilk from mothers, and nasal/oropharyngeal swabs and meconium samples from neonates were tested for SARS-CoV-2 by RT-PCR. The results showed that the most common presenting symptoms were fever (78.1%) and cough (42.9%), and three patients reported abnormal fetal movement (increased or decreased). All patients underwent successful term deliveries without severe complications or ICU admission. Also, SARS- CoV- 2 nucleic acid was not detected in breast milk samples, vaginal secretions, neonatal oropharyngeal swabs, or meconium specimens. However, the authors state that maternal	This study's findings suggest that passive acquisition of antibodies against SARS-CoV-2 by neonates can occur through breastmilk ingestion from COVID-19 infected mothers. Therefore, the authors encourage continued breastfeeding as the risk of SARS-CoV- 2 transmission to neonates is low.	Gao X, Wang S, Zeng W, et al. Clinical and immunological features among COVID-19 affected mother-infant pairs: antibodies to SARS-CoV- 2 detected in breast milk [published online ahead of print, 2020 Sep 1]. New Microbes New Infect. 2020;100752. doi:10.1016/j.nmni.2020.100752

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					seroconversion of SARS-CoV-2 IgM was observed on day 8 of disease onset, while IgG was detected on day 28. Furthermore, both IgM and IgG antibodies to SARS- CoV- 2 were detected in breast milk, cord blood, and neonatal serum.		
ACE2, pregnancy, antiviral, remdesivir, chloroquine, management	1-Sep-20	Severe acute respiratory syndrome coronavirus-2 and the deduction effect of angiotensin-converting enzyme 2 in pregnancy [Only Abstract Available for Free]	Journal of the Chinese Medical Association	Review Article	In this review, the authors discuss the symptoms, biological characteristics, and management options for SARS-CoV-2 during pregnancy. The common symptoms in pregnant women are fever, cough, and dyspnea. While ACE2 demonstrated transient overexpression and increased activity during pregnancy, there is no evidence that pregnant women are more susceptible to SARS-CoV-2. Immune suppression or modulation during pregnancy increases the risk of severe pneumonia. To date, there is no valid medication or vaccination. The antiviral Remdesivir has shown clinical improvement in the treatment of SARS-CoV-2 and is safe in pregnancy. Chloroquine is controversial in its effectiveness and safety and has not been assigned to a pregnancy category by the US Food and Drug Administration. Management includes monitoring the fetal heart rate and uterine contractions, provision of oxygen if maternal saturation is < 95%, and antibiotics for the prevention of secondary infection. Clinical considerations for delivery should be for obstetric indication, gestational age, and disease severity. The newborn should be in an isolation ward immediately after birth, and breastfeeding is not contra-indicated but should avoid direct transmission.	The authors review the literature surrounding SARS-CoV-2 during pregnancy. Physiological changes may make pregnant women more immunologically susceptible to infectious disease. Management strategies of SARS-CoV-2 during pregnancy should consider the safety of both the mother and fetus.	Lai YJ, Chang CM, Lin CK, et al. Severe acute respiratory syndrome coronavirus-2 and the deduction effect of angiotensin-converting enzyme 2 in pregnancy. J Chin Med Assoc. 2020;83(9):812-816. doi:10.1097/JCMA.0000000000000362
Newborn, vertical transmission	31-Aug-20	Coronavirus Disease 2019 in Neonates - What Is Known and What Needs to Be Known	Cureus	Review article	The authors discuss the clinical features, diagnosis, management, and preventive strategies for neonates that test positive or are at risk for COVID-19. While SARS-CoV-2-specific immunoglobulin (Ig)M and IgG have been detected in a few newborns of infected women, further studies are needed to confirm in-utero transmission, given the possibility of false-positive IgM. Few neonates have tested positive for COVID-19, and their symptoms have ranged from none to moderate. While vertical transmission is unlikely based on current data, horizontal transmission risk is present. The impact of maternal COVID-19 on the fetus is not well known; however, since viral pneumonia in pregnant women is associated with adverse neonatal outcomes, the authors suggest that pregnant women suspected of COVID-19 should have fetal growth monitored every 2-4 weeks. Considering the high risk of viral transmission from symptomatic COVID-19 infected mothers, the authors suggest separating asymptomatic neonates from symptomatic mothers immediately after birth. They state that the neonate should be fed with expressed breast milk, pasteurized donor human milk, or formula feeding. The authors also recommend admitting all symptomatic neonates to a separate neonatal intensive care unit, and monitoring them closely. Anti-virals and other medications, including hydroxychloroquine and azithromycin, are not recommended for symptomatic or asymptomatic neonates. All pregnant women need to be screened and practice infection control measures such as mask-wearing and handwashing.	Very few COVID-19 cases have been reported in neonates, and these patients have recovered well with early detection and supportive treatment. Although vertical transmission is unlikely, the authors state that all pregnant women should be screened and practice infection control measures to prevent horizontal transmission, including separation of asymptomatic neonates from symptomatic mothers immediately after birth.	Nayak M, Panda S, Pradhan JB, Mohakud NK. Coronavirus Disease 2019 in Neonates - What Is Known and What Needs to Be Known. Cureus. 2020 Aug 31;12(8):e10171. doi: 10.7759/cureus.10171. PMID: 33029451; PMCID: PMC7529492.
Bacillus Calmette-Guerin (BCG), pneumococcus,	31-Aug-20	Age and Location in Severity of COVID-19 Pathology: Do	BioEssays	Report	Two main conundrums remain unsolved by COVID-19 investigators including observations of rare morbidity and mortality among infants and young children as well as rates of morbidity and mortality exhibiting great variances across nations, locales, and cities. The authors suggest that areas	The authors suggest reduced COVID-19 infant morbidity and mortality may be due to higher rates of Hib and pneumococcal	Root-Bernstein R. Age and Location in Severity of COVID-19 Pathology: Do

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vaccine coverage, lactoferrin, breast milk, global		Lactoferrin and Pneumococcal Vaccination Explain Low Infant Mortality and Regional Differences?			with higher rates of infant pneumococcal vaccination have observed lower rates of COVID-19 morbidity and mortality. Hemophilus influenzae type B (Hib) and pneumococcal vaccinations have shown to have direct and indirect impacts on lowering COVID-19 morbidity and mortality and is hypothesized to help curb the pandemic through global mass immunization programs. Further, maternal antibodies, including antibodies against pneumococci, can passively protect newborns through breast milk. Additionally, maternal, cow, goat, and sheep milk contain lactoferrin that contains significant antiviral properties that can help protect against COVID-19 infection in infants. The authors suggest oral supplementation with lactoferrin to the daily intake of infants may be prophylactic or reduce symptoms of COVID-19. The authors conclude by suggesting Hib and pneumococcal global immunization programs and/or lactoferrin intake may aid in the reduction of infant morbidity and mortality due to COVID-19.	vaccination. Further, maternal antibodies and lactoferrin found in milk have antiviral properties; both vaccination and maternal milk may reduce infant morbidity and mortality of COVID-19.	Lactoferrin and Pneumococcal Vaccination Explain Low Infant Mortality and Regional Differences? [published online ahead of print, 2020 Aug 31]. Bioessays. 2020;e2000076. doi:10.1002/bies.202000076
Pregnancy, pathogenesis, placental pathology, transmission	31-Aug-20	Pregnancy and COVID-19: management and challenges	Revista do Instituto de Medicina Tropical de São Paulo	Review Article	This review introduces the pathogenesis, pathology (especially lung and placenta), and clinical features of COVID-19 with a focus on pregnancy-related outcomes for pregnant women infected with SARS-CoV-2 in comparison with SARS-CoV and MERS-CoV. Major conclusions include the following: Pregnant women with COVID-19 pneumonia show similar clinical characteristics compared with non-pregnant counterparts. Pregnancy complications that have occurred in pregnant women with COVID-19 include fetal distress, premature rupture of membranes, preterm deliveries and stillbirths. Pregnancy complications appear to be related to the cytokine storm, lung injury, and placental ischemia/ hypoxia caused by SARS-CoV-2 infections. There is currently no evidence to support intra-uterine vertical transmission of SARS, MERS, and COVID-19. Additionally, breast milk samples have not been positive for SARS-CoV-2 and since breastfeeding has a strong protective effect on the newborn, precautions should be taken to enable infected mothers to breastfeed.	The authors provide a review on maternal infection with SARS-CoV-2, SARS, and MERS during pregnancy, including viral pathogenesis, clinical manifestations and pregnancy-related outcomes.	Wenling Y, Junchao Q, Xiao Z, Ouyang S. Pregnancy and COVID-19: management and challenges. Rev Inst Med Trop Sao Paulo. 2020;62:e62. doi:10.1590/s1678-9946202062062
Pregnancy, critical care in pregnancy, critical care obstetrics, infectious disease in pregnancy, management	29-Aug-20	From the trenches: inpatient management of coronavirus disease 2019 in pregnancy	American Journal of Obstetrics & Gynecology MFM	Original Article	These authors offer a guide to inpatient management of pregnant patients with COVID-19. They recommend that COVID-19 testing be performed as RT-PCR testing from nasopharyngeal swabs. They encourage universal testing for pregnant patients upon hospital admission; if this is not feasible, testing may be based on symptoms or epidemiologic risk factors. Hospitalization should be considered for pregnant women with COVID-19 and severe symptoms or comorbidities. These patients should have basic lab and imaging tests upon admission, and contact and droplet precautions should be used. Current COVID-19 care focuses on IPC, but medications such as hydroxychloroquine may be considered, depending on institutional guidelines and infectious disease recommendations. Steroids and antibiotics are usually not indicated in these patients, but use should be individualized. Anticoagulation therapy may be helpful, based on clinical circumstances. The authors state that COVID-19 infection alone is not an indication for delivery. In preterm patients with severe illness, a multidisciplinary health care team should weigh the risks and benefits of prolonging pregnancy. C-section may be necessary with severe COVID-19 illness, but intubation should be avoided if possible, due to risk of aerisolization. If needed for any reason, intubation	These authors offer a detailed guide to inpatient management of pregnant patients with COVID-19. The article includes checklists of recommended testing and tips for managing these patients.	Vega M, Hughes F, Bernstein PS, et al. From the trenches: inpatient management of coronavirus disease 2019 in pregnancy. Am J Obstet Gynecol MFM. 2020;2(3):100154. doi:10.1016/j.ajogmf.2020.100154

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					should be performed in a negative pressure room, and staff should wear N95 respirators. Electronic fetal monitoring may be useful in monitoring both fetal and maternal oxygenation. In the postpartum period, supportive care, medications, and anticoagulation should continue as necessary. The authors encourage breastfeeding, with appropriate infection prevention measures such as hand washing and masks. They recommend close virtual follow-up for postpartum COVID-19 positive patients, to monitor for worsening illness.		
Vertical transmission, perinatal transmission, breast milk, breastfeeding	28-Aug-20	Transmission of SARS-CoV-2 through breast milk and breastfeeding: a living systematic review	Annals of the New York Academy of Sciences	Review	At present, there is limited information on potential transmission of SARS-CoV-2 from mother to child, particularly through breast milk. This living systematic review included 340 studies involving pregnant or lactating women with suspected, probable, or confirmed SARS-CoV-2 and their infants or young children (0–24 months). 37/340 studies included breast milk samples of 77 mothers breastfeeding their children; 19/77 children had confirmed SARS-CoV-2 based on RT-PCR assays: 14 neonates (28 days or younger) and 5 older infants. 9/68 analyzed breast milk samples from mothers with COVID-19 had detectable SARS-CoV-2 RNA; of the 6 infants exposed, 4 were positive and 2 were negative via RT-PCR assay. Even though viral RNA was detected in breast milk samples, there were no attempts to culture the SARS-CoV-2 from breast milk isolates and information on feeding practices, contact precautions, skin-to-skin contact, and room environment was not consistently provided. The authors offer data collection guidelines for investigators working with breastfeeding mothers and their children.	This living systematic review included 340 studies involving pregnant or lactating women with suspected, probable, or confirmed SARS-CoV-2 and their infants or young children (0–24 months). The authors conclude that there is no strong evidence for SARS-CoV-2 transmission via breast milk, given a lack of consistent data on feeding practices, contact precautions, skin-to-skin contact, and room environment. Data collection guidelines for future research are provided.	Centeno-Tablante E, Medina-Rivera M, Finkelstein JL, et al. Transmission of SARS-CoV-2 through breast milk and breastfeeding: a living systematic review [published online, 2020 Aug 28]. Ann N Y Acad Sci. 2020. doi:10.1111/nyas.14477
Egypt, clinical management, guidance, testing, diagnosis, breastfeeding, severity, abnormalities, treatment, children	28-Aug-20	Practical approach to COVID-19: an Egyptian pediatric consensus	Egyptian Pediatric Association Gazette	Review	Pediatric pulmonologists and infectious disease consultants in Egypt created guidance for clinical management of children during the COVID-19 pandemic based on an extensive literature review and discussions about updated international guidelines, data, and recommendations. The guidance includes precautions to minimize the risk of transmission of infection in the emergency room and hospital. Recommended treatment of suspected COVID-19 in the emergency room is based on an algorithm including clinical presentation, laboratory tests, radiological findings, and disease severity. Recommended testing for suspected cases includes complete blood count and radiology, with a nasopharyngeal swab for PCR used to confirm diagnosis. To determine severity, serum ferritin, D dimer, lactase dehydrogenase, and C-reactive protein should be assessed. The guidance addresses chest radiological abnormalities for x-ray and CT and laboratory abnormalities. It also classifies high-risk conditions in children, including diabetes, kidney disease, asthma, serious heart conditions, liver disease, severe obesity, and immunocompromising conditions. Recommended treatments are detailed in a treatment algorithm depending on severity of COVID-19. The guidance states that all confirmed or suspected COVID-19 mothers with any symptoms who are breastfeeding or practicing skin-to-skin contact should follow standard infant feeding guidelines with appropriate precautions.	Pediatric pulmonologists and infectious disease consultants in Egypt created this guidance for clinical management of children during the COVID-19 pandemic. The guidance addresses safety precautions, procedure for diagnosis and assessing severity, testing for suspected or confirmed cases, chest and laboratory abnormalities, high-risk children, treatment, and breastfeeding.	Mostafa AS, Abdalbak, A, Fouda EM, et al. Practical approach to COVID-19: an Egyptian pediatric consensus. Egypt Pediatric Association Gaz. 2020;68(28). doi.org/10.1186/s43054-020-00037-9

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Breast milk; congenital infection; neonates; pregnancy	28-Aug-20	Clinical Features and Outcome of SARS-CoV-2 Infection in Neonates: A Systematic Review	Journal of Tropical Pediatrics	Original Research	This systematic review aimed to synthesize the currently available literature on various modes of transmission (congenital, intrapartum, and postpartum), clinical features, and outcomes of SARS-CoV-2 infection in neonates. The authors conducted a comprehensive literature search using PubMed, EMBASE, and Web of Science until 9 June 2020 and included studies reporting neonatal outcomes of SARS-CoV-2 proven pregnancies or neonatal cases diagnosed with SARS-CoV-2 infection. 86 publications, consisting of 45 case series and 41 case reports were included in this review. The case series reported 1992 pregnant women, of which 1125 (56.5%) gave birth to 1141 neonates. Also, 281 (25%) neonates were preterm, and C-section (66%) was the preferred mode of delivery. The case reports described 43 mother-baby dyads, of which 16 were preterm, 9 were low birth weight, and 27 were born by C-section. Overall, 58 neonates were reported with SARS-CoV-2 infection (4 had a congenital infection), of which 29 (50%) were symptomatic (23 required ICU) with respiratory symptoms being the predominant manifestation (70%). Also, postpartum acquisition was the most common mode of infection in neonates, although a few cases of congenital infection were reported. No mortality was reported in SARS-CoV-2-positive neonates.	This review suggests that the risk of SARS-CoV-2 infections in neonates is extremely low, and unlike children, most COVID-positive neonates were symptomatic and required intensive care.	Dhir SK, Kumar J, Meena J, Kumar P. Clinical Features and Outcome of SARS-CoV-2 Infection in Neonates: A Systematic Review [published online, 2020 Aug 28]. J Trop Pediatr. 2020;fmaa059. doi:10.1093/tropej/fmaa059
Beliefs, breastfeeding, pregnancy, sexual health	27-Aug-20	Beliefs related to sexual intimacy, pregnancy and breastfeeding in the public during COVID-19 era: a web-based survey from India [Free Access to Abstract Only]	Journal of Psychosomatic Obstetrics and Gynaecology	Letter	This study from India aimed to evaluate the beliefs held by the public regarding sexual health, pregnancy, and breastfeeding during the COVID-19 era. In this online cross-sectional survey a self-designed questionnaire was circulated by snowballing sampling. 1636 people responded: 63% of the participants mentioned that kissing could spread the virus. Unprotected sexual intercourse with the spouse can cause infection spread, was reported by 35.9%. 22% thought that unprotected sexual intercourse with unknown partners/persons could not spread the infection. 49.7% of the participants reported infection can be transmitted from mother to the child/fetus during the process of birth or pregnancy and 21.3% of the participants reported going ahead with the C-section if the mother is suspected or is confirmed to be infected. About one-fifth feared for risk of birth defects and abortion in case the mother is infected. 28% of the participants reported COVID-19 can be transmitted to newborns by breastfeeding. The study suggests that a significant proportion of people have misinformation about sexual intimacy, pregnancy, and breastfeeding in the ongoing pandemic which needs to be addressed.	The present study suggests that a significant proportion of people have misinformation about sexual intimacy, pregnancy, and breastfeeding in the ongoing pandemic. There is a need to escalate the awareness program in this regard.	Sahoo S, Pattnaik JI, Mehra A, Nehra R, Padhy SK, Grover S. Beliefs related to sexual intimacy, pregnancy and breastfeeding in the public during COVID-19 era: a web-based survey from India [published online, 2020 Aug 27]. J Psychosom Obstet Gynaecol. 2020;1-8. doi:10.1080/0167482X.2020.1807932
Breast milk, breastfeeding, vertical transmission, neonate, Mexico	26-Aug-20	A Case Report of Newborn Infant with Severe COVID-19 in Mexico: Detection of SARS-CoV-2 in Human Breast Milk and Stool	International Journal of Infectious Disease	Case Report	There exists a lack of understanding about the source and potential for mother-to-infant vertical transmission of SARS-CoV-2. The authors report the case of a mother with COVID-19 and her female neonate who tested positive for SARS-CoV-2 at the time of birth in Mexico. The 21-year-old mother displayed symptoms of COVID-19 at 38 weeks of gestation and tested positive by RT-PCR. The infant was born via emergency c-section and was immediately separated from her mother after birth. Both nasopharyngeal and oropharyngeal swabs collected from the neonate during delivery tested positive for SARS-CoV-2 by RT-PCR. Additionally, the RT-PCR results showed a low cycle threshold value suggesting a high viral load in the neonate. The neonate had newborn jaundice, tachypnea,	The authors report the case of a severe COVID-19 infection in a neonate born to a woman who tested positive during pregnancy in Mexico. Both nasopharyngeal and oropharyngeal swabs collected from the neonate immediately after birth tested positive for SARS-CoV-2 suggesting intrauterine vertical transmission. Additionally, shedding of SARS-CoV-2 RNA in	Hinojosa-Velasco A, de Oca PVB, García-Sosa LE, et al. A Case Report of Newborn Infant with Severe COVID-19 in Mexico: Detection of SARS-CoV-2 in Human Breast Milk and Stool [published online ahead of print, 2020 Aug 26]. Int J

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					hyponatremia, central cyanosis, dyspnea, and an oxygen saturation of 87% and was classified as a severe case of COVID-19. The neonate was feed synthetic milk formula instead of human milk until she was confirmed as a case of COVID-19 without adverse effects. On the fourth day after delivery, RT-PCR analyses of the mother's milk and stool samples tested positive for SARS-CoV-2 RNA, and a similar finding was observed in the infant's stool sample. Nasopharyngeal and oropharyngeal swabs and stool samples taken from the infant on day 13 after delivery tested negative for SARS-CoV-2. However, maternal samples remained positive.	maternal and infant stool and breast milk was detected.	Infect Dis. 2020;S1201-9712(20)30684-6. doi:10.1016/j.ijid.2020.08.055
Breastfeeding; COVID-19; India; misinformation; media; stigma; social support	25-Aug-20	Breastfeeding in India is disrupted as mothers and babies are separated in the pandemic	British Medical Journal (BMJ)	Commentary	This commentary discusses the impact of COVID-19 on breastfeeding in India, driven by separating mothers from infants and the provision of formula due to fears of infection. The author reports an increase in advertising for formula in India since the start of the pandemic, some of which contains incorrect information that conflicts with the WHO's recommendations. There have been instances of non-profit organizations distributing formula, which defies the Infant Milk Substitutes (IMS) Act of 1992 (though these actions have been denied or ceased by the accused parties). The author also argues that breastfeeding has been stigmatized in India, and the lack of clear guidance for COVID-19 positive mothers has resulted in high maternal anxiety. The author recommends informing leaders of non-profit organizations and health workers of the IMS Act and increasing support for lactating mothers. Additionally, he highlights efforts to combat this false information campaign and improve breastfeeding. Efforts include a Facebook group called "Breastfeeding Support for Indian Mothers," which has amassed over 126,000 members, and a training conducted by doctors in Mumbai on safe breastfeeding during the pandemic.	In this commentary, the author reports that false media campaigns and social stigma surrounding breastfeeding during COVID-19 in India has decreased breastfeeding rates. Additionally, the author highlights promising efforts to decrease maternal anxiety and maintain positive breastfeeding practices during the pandemic.	Bhatt, N. (2020). Breastfeeding in India is disrupted as mothers and babies are separated in the pandemic. BMJ 2020; 370 doi: https://doi.org/10.1136/bmj.m3316
Pregnancy, breastfeeding, clinical trials, research	25-Aug-20	Include pregnant women in research-particularly covid-19 research	BMJ	Editorial	Clinical trials, especially of drugs, frequently exclude pregnant and breastfeeding women. Therefore, the safety of treatments in this population is often unknown. This article highlights the RECOVERY (Randomized Evaluation of COVID-19 Therapy) trial, which has included pregnant and breastfeeding women. The authors suggest that researchers link trial data to routine surveillance systems for pregnancy and infant outcomes, for easier integration of information. They recommend that the default process for trials be to include, rather than exclude, pregnant and breastfeeding women. This practice is particularly important during the COVID-19 pandemic, in order to provide the full benefit of potentially life-saving vaccines and treatments to this population.	This editorial recommends that the default process for clinical trials be to include, rather than exclude, pregnant and breastfeeding women. This practice is particularly important during the COVID-19 pandemic.	Knight M, Morris RK, Furniss J, Chappell LC. Include pregnant women in research-particularly covid-19 research. BMJ. 2020;370:m3305. Published 2020 Aug 25. doi:10.1136/bmj.m3305
Neonates, protocols, ICU, delivery rooms, isolation	24-Aug-20	Role of a Neonatal Intensive Care Unit during the COVID-19 Pandemia: recommendations from the	Revista da Associação Médica Brasileira	Clinical Perspective	This article describes the expansion and restructuring of a neonatal ICU in São Paulo, Brazil to meet the anticipated needs of neonates with expected or confirmed COVID-19. It describes the initial set-up of the NICU medical team and equipment, the procedures for transporting a neonate from the delivery room to the unit, and care of the neonate during hospitalization including testing, isolation, breastfeeding, and routine care. The authors describe specific procedures regarding breastfeeding, stating that in the delivery room skin-to-skin contact and breastfeeding in the first hour are suspended during the pandemic.The authors also outline their protocol for	This article describes a protocol developed in São Paulo, Brazil to meet the new demand for hospital care of neonates with suspected or confirmed COVID-19. The authors recommend that in the delivery room skin-to-skin contact and breastfeeding in the first hour are	Carvalho WB, Gibelli MABC, Krebs VLJ, Tragante CR, Perondi MBM. Role of a Neonatal Intensive Care Unit during the COVID-19 Pandemia: recommendations from the neonatology

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		neonatology discipline			evaluating neonates identified in the outpatient setting as having a flu-like illness or who have a caregiver with flu-like illness, including but not limited to COVID-19. When hospitalized, visits from the asymptomatic mother will be allowed in the afternoon, with a human milk collection room available for extraction of breast milk to offer to the child during the mother's absence.	should be suspended for the duration of the pandemic.	discipline. Rev Assoc Med Bras (1992). 2020;66(7):894-897. doi:10.1590/1806-9282.66.7.894
Immune response, infant, transmission, China	22-Aug-20	Coronavirus Disease-2019 (COVID-19) Infection in a 3-Month-Old Infant: Clinical Features, Treatment and Probably Route of Transmission	ID Cases	Case Report	In this case study, clinical and epidemiological data of a 3-month-old patient with COVID-19 were collected, including general status, clinical results, laboratory tests, imaging characteristics, and epidemiological reports. Abnormal findings included elevated interleukin (IL-)-17A, IL-17 F, and tumor necrosis factor (TNF-)-α, as well as pulmonary patchy shadows on CT scan. Throat and urine samples showed negative PCR results, but anal swabs continued to show positive PCR up to 40 days after illness onset. The authors hypothesize that while infants infected with COVID-19 may have relatively mild symptoms or clinical signs, IL-17A, IL-17 F, and TNF-α could be involved in the immune response to COVID-19. They also suggest that SARS-CoV-2 infection may shed through the gastro-intestinal tract, supporting the idea that convalescent carriers may exist among infant patients. The authors indicate that they cannot rule out the possibility that infants may acquire SARS-CoV-2 infection from breastfeeding. Intensive care and nutritional support are recommended for infant patients even if they present with mild symptoms.	An infant in China was documented to show increased levels of interleukin (IL-)-17A, IL-17 F, and TNF-α, as well as positive PCR from anal swab samples up to 40 days post-onset of infection. The authors hypothesize that these proteins could be part of the infant immune response to SARS-CoV-2, and infants may be convalescent carriers.	Wei Y, Liu X, Yuan J, et al. Coronavirus Disease-2019 (COVID-19) Infection in a 3-Month-Old Infant: Clinical Features, Treatment and Probable Route of Transmission. IDCases. 2020; doi:10.1016/j.idcr.2020.e00937
Maternal health, maternity care, Europe	15-Aug-20	The impact of the coronavirus (COVID-19) pandemic on maternity care in Europe	Midwifery	Editorial	In this editorial, the authors consider the impact that COVID-19 has had on maternity care in Europe and draw on first-hand accounts from colleagues and clinicians in several affected countries to examine similar or different responses. Commonalities include concerns around PPE, high numbers of healthcare staff affected by the virus, and steps taken to reduce pregnant women's exposure to health settings by switching to online and telephone consultations where possible. Differences emerge in how labor care and choice of delivery location have been planned, the reductions in antenatal and postnatal 'face to face' care provision, and in promotion of skin to skin contact and breastfeeding for COVID-19 positive women following birth. While there is evidence suggesting that pregnancy does not increase the likelihood of developing COVID-19 complications and that vertical transmission appears to be unusual, the authors conclude that additional evidence is needed to definitively support these early indications.	In this editorial, the authors describe the impact that COVID-19 has had on maternity care in Europe, and examine how those countries most affected have had similar or different responses. They argue that COVID-19 will affect maternity care for the foreseeable future.	Coxon K, Turienzo CF, Kweekel L, et al., The Impact of the Coronavirus (COVID-19) Pandemic on Maternity Care in Europe. [published online, 2020 Aug 15]. Midwifery. doi:https://doi.org/10.1016/j.midw.2020.102779
Pregnancy, children, neonate, health outcomes, public health	10-Aug-20	Clarifying the Sweeping Consequences of COVID-19 in Pregnant Women, Newborns, and Children With Existing Cohorts	JAMA Pediatrics	Viewpoint	In this Viewpoint, the authors argue that the agile reconfiguration of existing, large birth cohort studies may be the only way to capture the long-term consequences of the COVID-19 pandemic for pregnant women, neonates, and children. They state that there is a need to understand the outcomes of the pandemic, both in those with and without an infection as all will bear the burdens of altered health services, psychosocial stress, and economic downturn. Specifically, the authors emphasize the importance of the following issues: the true incidence of COVID-19, mother-to-child transmission, breastfeeding recommendations, long-term effects on fetal development/child health, and long-term health services outcomes. They argue that answering these questions will require an appropriate pregnancy and birth cohort. Some of these cohorts already exist and are ready to	The authors argue that reconfiguration of existing birth cohort studies will allow for the best evaluation of outcomes related to the COVID-19 pandemic in pregnant women, neonates, and children.	Hu YJ, Wake M, Saffery R. Clarifying the Sweeping Consequences of COVID-19 in Pregnant Women, Newborns, and Children With Existing Cohorts. [published online, 2020 Aug 10]. JAMA Pediatr.

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					incorporate a focus on COVID-19. This would provide a sustainable infrastructure to minimize adverse outcomes associated with the current pandemic for mothers and infants while maximizing knowledge to help address future outbreaks.		doi:10.1001/jamapediatrics.2020.2395
Neonate, breastfeeding, childbirth, maternal health, USA	10-Aug-20	Newborns of COVID-19 mothers: short-term outcomes of colocating and breastfeeding from the pandemic's epicenter	Journal of Perinatology	Comment	The authors seek to describe their experience caring for newborns of COVID-19 positive women delivering at a large public hospital in Queens, New York, USA. They performed a retrospective cross-sectional study of live births to women who were tested for SARS-CoV-2 from 19 March-22 April 2020 at their center. Among 118 live births, 45 (38%) neonates were born to SARS-CoV-2 positive mothers. The majority of positive mothers (27, 60%), were asymptomatic. Seven (16%) newborns were admitted to the neonatal ICU (NICU) due to prematurity or suspected sepsis. None of the 45 newborns needed NICU admission for COVID-19-related symptoms. Of those born to SARS-CoV-2 positive mothers, 73% (33/45) co-located with their mothers, including 31 (94%) who were breastfed within one hour of birth. Three newborns tested positive for SARS-CoV-2, and they were monitored in the NICU. The authors conclude that in their experience, there were no short-term adverse neonatal outcomes with skin-to-skin care, rooming-in, or breastfeeding in newborns of SARS-CoV-2 positive mothers.	The authors identified 45 neonates born to SARS-CoV-2 positive mothers in the USA. Rooming-in and breastfeeding after delivery provided a critical educational opportunity for new mothers to learn strategies to reduce the risk of transmission of SARS-CoV-2 to their newborn.	Patil UP, Maru S, Krishnan P, et al. Newborns of COVID-19 mothers: short-term outcomes of colocating and breastfeeding from the pandemic's epicenter [published online, 2020 Aug 10]. J Perinatol. doi:10.1038/s41372-020-0765-3
Pregnancy, neonate, management, Brazil	10-Aug-20	Care recommendations for parturient and postpartum women and newborns during the COVID-19 pandemic: a scoping review	Revista Latino-Americana de Enfermagem	Review article	This scoping review sought to map the current knowledge on recommendations for labor, childbirth, and newborn care in the context of COVID-19. 19 papers were reviewed and grouped into 2 categories: recommendations for labor and delivery, which address indications to anticipate delivery, route of delivery, and preparation of staff and birth room, and recommendations for post-partum care, which address breastfeeding, newborn care, hospital discharge, and care provided to the newborn at home. A table summarizes the recommendations for each of the above elements. The authors indicate that further studies are needed to resolve current controversies regarding directed pushing in labor, instrumental delivery, delayed umbilical cord clamping, and immediate bathing of the newborn.	This review summarizes available recommendations for management of both labor and delivery and the post-partum period in the context of the COVID-19 pandemic. Of note: the authors recommend COVID-19 infected mothers to breastfeed provided that they wear surgical masks and observe hand hygiene, and if impossible, to express or pump breast milk.	Mascarenhas VHA, Caroci-Becker A, Venâncio KCMP, et al. Care recommendations for parturient and postpartum women and newborns during the COVID-19 pandemic: a scoping review. Rev Lat Am Enfermagem. 2020;28:e3359. doi:10.1590/1518-8345.4596.3359
Pregnancy, stillbirth, neonatal mortality, intrapartum care, Nepal	10-Aug-20	Effect of the COVID-19 pandemic response on intrapartum care, stillbirth, and neonatal mortality outcomes in Nepal: a prospective observational study	The Lancet Global Health	Original Research	In this prospective observational study, the authors assessed data from 20,354 pregnant women who gave birth between Jan 1 and May 30, 2020, from nine hospitals in Nepal. They assessed the number of institutional births, their outcomes, and quality of intrapartum care before and during the national COVID-19 lockdown. The average weekly reduction in institutional births during lockdown was 7.4%, with a total decrease of 52.4% by the end of lockdown. The risk ratio of preterm birth for during lockdown versus before lockdown was 1·30 (95% CI 1.20–1.40), after adjusting for ethnicity, maternal age, and complication during admission. The institutional stillbirth rate increased from 14 per 1000 total births to 21 per 1000 total births during lockdown, with an adjusted risk ratio of 1.46 (95% CI 1·13–1·89). The institutional neonatal mortality rate increased from 13 deaths per 1000 live births to 40 deaths per 1000 live births, with an	In Nepal, institutional childbirth reduced by more than half during the COVID-19 lockdown, with increases in institutional stillbirth rate and neonatal mortality. Several metrics of quality of care decreased during lockdown, including fetal heart rate monitoring and breastfeeding within 1 hour of birth.	Ashish KC, Gurung R, Kinney MV, et al. Effect of the COVID-19 pandemic response on intrapartum care, stillbirth, and neonatal mortality outcomes in Nepal: a prospective observational study [published 2020 Aug 10]. Lancet Glob Health. 2020.

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					adjusted risk ratio of neonatal mortality during the lockdown of 3.15 (95% CI 1.47–6.74). During lockdown there was a decrease in intrapartum fetal heart rate monitoring during labor and a decrease in breastfeeding within 1 hour of birth, but improvement in skin-to-skin contact and hand hygiene practice.		doi:10.1016/S2214-109X(20)30345-4
Pregnancy, maternal health, Nepal	10-Aug-20	Providing maternal health services during the COVID-19 pandemic in Nepal	The Lancet Global Health	Commentary	This commentary summarizes the findings published by Ashish KC, et al, in a prospective observational study of intra-partum care, stillbirth and neonatal mortality outcomes across 9 hospitals in Nepal from January-May 2020. They describe the timing and effects of COVID-19 lockdown measures. They note a sharp increase in maternal mortality from March-May 2020, with institutional births decreasing by 52.4% over this time frame and women in relatively disadvantaged ethnic groups being affected more. They show increases in neonatal deaths and institutional stillbirths and decreases in intra-partum fetal heart rate monitoring and early initiation of breastfeeding. The authors comment that the Nepalese Government should take note of this Article, monitor real-time essential services coverage levels, and be prepared to modify restrictions to enable women to again access timely and quality maternal health services.	This commentary summarizes findings of the impact of the first two months of COVID-19 lockdown on maternal health services in Nepal, showing increases in maternal mortality, neonatal deaths, and stillbirths.	Karkee R, Morgan A. Providing maternal health services during the COVID-19 pandemic in Nepal [published online 2020 Aug 10]. Lancet Glob Health. 2020. doi:10.1016/S2214-109X(20)30350-8
Neonate, NICU, clinical characteristics, vertical transmission, Turkey	10-Aug-20	A multicenter study on epidemiological and clinical characteristics of 125 newborns born to women infected with COVID-19 by Turkish Neonatal Society	European Journal of Pediatrics	Original article	This multi-center cohort study was conducted among newborns born to 125 mothers with COVID-19 in 34 neonatal ICUs (NICUs) in Turkey from March 15-June 15, 2020, to evaluate the epidemiological and clinical characteristics of newborns born to women infected with COVID-19. C-section, prematurity, and low-birthweight infant rates were 71.2%, 26.4%, and 12.8%, respectively. 8 mothers (6.4%) were admitted to an ICU for mechanical ventilation, and 6 died (4.8%). A majority of the newborns (86.4%) were followed in isolation rooms in the NICU. 56.8% were fed with formula, and 36% with expressed breast milk. 4 of 120 newborns (3.3%) had a positive RT-PCR test result, and 5 asymptomatic newborns could not be tested. Although samples taken on the first day were negative, 1 neonate became positive on the second day and 2 on the fifth day. A sample from deep tracheal aspirate was positive on the first day in an intubated case, the fourth case that tested positive. Based on this cohort study, the maternal mortality, higher rates of preterm birth and C- section, suspected risk of vertical transmission, and low rate of breastfeeding show that family support should be a part of the care in the NICU.	This cohort study found a 3.3% prevalence of COVID-19 infection among infants born to mothers with COVID-19. The authors advocate for family support to be a part of the care these newborns receive while in the NICU under isolation precautions.	Oncel MY, Akın IM, Kanburoglu MK, et al. A multicenter study on epidemiological and clinical characteristics of 125 newborns born to women infected with COVID-19 by Turkish Neonatal Society [published online 2020 Aug 10]. Eur J Pediatr. 2020;1-10. doi:10.1007/s00431-020-03767-5
Pregnancy, mother-infant separation, breastfeeding, New York City, USA	10-Aug-20	Impact of Maternal SARS-CoV-2 Detection on Breastfeeding Due to Infant Separation at Birth	The Journal of Pediatrics	Original Article	This observational longitudinal cohort study of SARS-CoV-2 PCR-positive mothers and their infants at 3 New York City, USA, hospitals from March 25-May 30, 2020, assessed the impact of separation of SARS-CoV-2 PCR-positive mother-newborn dyads on breastfeeding outcomes. Mothers were surveyed by telephone. Of the 160 mother–newborn dyads, 103 mothers were reached by telephone, and 85 consented to participate. No significant difference was observed in pre-delivery feeding plan between the separated and unseparated dyads (P = .268). Higher rates of breastfeeding were observed in the unseparated dyads compared with the separated dyads in the hospital (p<0.001), and at home (p=0.012). 2 mothers in each group reported expressed breast milk as the hospital feeding source (5.6% of unseparated vs 4.1% of separated). COVID-19 was more commonly cited as the reason for change of feeding plan among the separated compared with	This observational study found lower rates of breastfeeding both in the hospital and at home among mother-newborn dyads who had been separated during their hospitalization due to maternal COVID-19 infection.	Popofsky S, Noor A, Leavens-Maurer J, et al. Impact of Maternal SARS-CoV-2 Detection on Breastfeeding Due to Infant Separation at Birth [published online 2020 Aug 10]. J Pediatr. 2020;S0022-3476(20)30986-0. doi:10.1016/j.jpeds.2020.08.004

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					the unseparated group (49.0% vs 16.7%, p<0.001). In the setting of COVID-19, separation of mother–newborn dyads impact breastfeeding outcomes, with lower rates of breastfeeding both during hospitalization and at home following discharge compared with unseparated mothers and infants.		
postpartum; obstetric; newborn; skin-to-skin; breastfeeding	9-Aug-20	Skin-to-Skin Contact at Birth in the COVID-19 Era: In Need of Help!	American Journal of Perinatology	Editorial	Skin-to-skin contact (SSC) of mothers and neonates offers many benefits, including improved bonding, infant blood glucose regulation, and newborn temperature stabilization. During the COVID-19 pandemic, some maternity units have discouraged SSC, due to concerns for infant exposure/infection. These authors report that no current data support an increased risk of neonatal COVID-19 infection after SSC, and that the benefits of SSC usually outweigh the theoretical risks. This editorial recommends that, as long as infection prevention measures are followed, the only COVID-positive mothers who should not practice SSC, are those with such severe cases that they physically cannot perform it. This agrees with the stance of the World Health Organization.	With rare exceptions, this editorial recommends that skin-to-skin contact of infants and mothers should continue during the COVID-19 pandemic.	Davanzo R, Merewood A, Manzoni P. Skin-to-Skin Contact at Birth in the COVID-19 Era: In Need of Help! [published online ahead of print, 2020 Aug 9]. Am J Perinatol. 2020;10.1055/s-0040-1714255. doi:10.1055/s-0040-1714255
Breast milk, breastfeeding, case series, donor breast milk, infant formula, Spain	8-Aug-20	Breastfeeding mothers with COVID-19 infection: a case series	International Breastfeeding Journal	Case Series	The potential for viral transmission from mother to newborn through breastmilk remains uncertain. Consequently, various health organizations disagree on breastfeeding management in confirmed COVID-19 patients. In this retrospective study, authors present a series of representative cases of 22 newborns delivered by mothers with COVID-19 infections from March 14th to April 14th, 2020, in Spain who were then followed for a median period of 1.8 consecutive months. Out of 22 mothers, 20 (90.9%) chose to breastfeed their infants during hospital admission. Timely initiation and skin-to-skin contact at delivery room was performed in 54.5% and 59.1%, respectively. 82% of newborns to mothers with COVID-19 were fed with breast milk after 1 month, decreasing to 77% at 1.8 months. Six of 22 (37.5%) mothers with COVID-19 required transitory complementary feeding until exclusive breastfeeding was achieved. During follow-up period, there were no major complications, and no neonates were infected during breastfeeding. As a result, authors concluded that breastfeeding in newborns of mothers with COVID-19 is safe with the adequate infection control measures to avoid mother-infant contagion, including but not limited to respiratory hygiene, routine cleaning of surfaces and infant feeding equipment, and thorough hand washing before and after contact with the newborn.	The authors from a study in Spain argue that whenever possible, breastfeeding by COVID-19 confirmed mothers should be encouraged at any time. With adequate infection control measures to avoid mother-infant contagion, breastfeeding in newborns of mothers with COVID-19 infections remains safe.	Pereira A, Cruz-Melguizo S, Adrien M, et al. Breastfeeding mothers with COVID-19 infection: a case series. Int Breastfeed J. 2020;15(1):69. Published 2020 Aug 8. doi:10.1186/s13006-020-00314-8
Breastfeeding, infants, safety	7-Aug-20	Infant feeding at the time of COVID-19: Is it safe to breastfeed?	Journal of Clinical Neonatology	Letter to the Editor	Recommendations regarding mother-infant contact and breastfeeding for mothers with COVID-19 are conflicting. Most reports and recommendations, however, acknowledge that postpartum contact with infants and breastfeeding might present potential risks for viral transmission from mothers with COVID-19 through respiratory droplets. The options discussed by the author in this letter include: (1) expressed breast milk, (2) accepting the potential risk of breastfeeding, (3) bottled formula, and (4) donor milk. While the beneficial effects of breastfeeding are fully recognized, a well-balanced discussion with the parents for or against breastfeeding should enable an informed decision. This guidance should address: risks and benefits of breastfeeding, potential presence of viral antibodies, risk of	The author of this letter discusses potential risks, options, and alternatives for breastfeeding neonates during the COVID-19 pandemic. The importance of fully informed parental decision-making facilitated by health-care providers is also detailed.	Mosalli R. Infant feeding at the time of COVID-19: Is it safe to breastfeed?. J Clin Neonatol. 2020;9(3):229. doi:10.4103/jcn.jcn_64_20

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					infection via health-care providers, and the care needed during handling the neonate to avoid infection, as well as the alternative feeding options.		
Breastfeeding, infant, mother-infant transmission, China	6-Aug-20	Breastfed 13 month-old infant of a mother with COVID-19 pneumonia: a case report	International Breastfeeding Journal	Case report	The authors present the case of a mother who continued breastfeeding her 13-month-old child when both were diagnosed with confirmed COVID-19 pneumonia. They describe the clinical presentation, diagnosis, treatment, and outcome. SARS-CoV-2 nucleic acid was found in maternal nasopharyngeal swabs but not serum, breast milk or feces. SARS-CoV-2 nucleic acid was found in infant nasopharyngeal swabs and feces but not serum. IgM and IgG antibodies against SARS-CoV-2 were found in maternal serum and breast milk and in infant serum. They conclude that this case supports the possibility of mother-to-child transmission of SARS-CoV-2 via breast milk alone being very small, and that breast milk from mothers with SARS-CoV-2 infection is safe for direct feeding of infants.	This case report of a mother with COVID-19 who was found to have SARS-CoV-2 IgM and IgG antibodies, but not SARS-CoV-2 nucleic acid, in her breast milk adds to the data supporting the safety of mothers with COVID-19 breastfeeding their infants.	Yu Y, Li Y, Hu Y, et al. Breastfed 13 month-old infant of a mother with COVID-19 pneumonia: a case report [published online 2020 Aug 6]. Int Breastfeed J. 2020;15(1):68. doi:10.1186/s13006-020-00305-9
Maternal health, mental health, infant, breastfeeding	6-Aug-20	Implications of the COVID-19 Pandemic Response for Breastfeeding, Maternal Caregiving Capacity and Infant Mental Health [No Abstract and Article not available for free]	Journal of Human Lactation	Insights into Practice and Policy	The authors seek to outline the protective influences of breastfeeding on infant health during the COVID-19 pandemic. In this article, they describe current knowledge concerning SARS-CoV-2 in infants and human milk. They summarize international and national guidance for newborn care in the context of the pandemic. They describe the results of policies that prevent skin-to-skin contact, isolate or separate mothers and infants on breastfeeding, maternal caregiving capacity, and infant mental health. They emphasize that some COVID-19 policies separate infants and mothers, preventing or impeding breastfeeding, despite no evidence for vertical transmission of SARS-CoV-2 and generally mild symptoms in infants. Further, they argue that policies separating mothers and infants and impeding breastfeeding increase infant morbidity, mortality, and child neglect. Finally, they discuss parallels to the HIV pandemic, ethical considerations, and the disproportionate influence of policies undermining breastfeeding and maternal caregiving on disadvantaged mothers and infants.	The authors argue that policymakers should develop guidance for maternal caregiving by considering the risks of disease transmission as well as the critical importance of skin-to-skin contact, breastfeeding, and maternal proximity to short and long-term infant physical and mental health.	Gribble K, Marinelli KA, Tomori C, Gross MS. Implications of the COVID-19 Pandemic Response for Breastfeeding, Maternal Caregiving Capacity and Infant Mental Health [published online, 2020 Aug 6]. J Hum Lact. doi:10.1177/0890334420949514
Epidemiology, clinical features, symptoms, infants, breastfeeding, USA	6-Aug-20	Epidemiology, clinical features, and outcomes of hospitalized infants with COVID-19 in the Bronx, New York	Archives de Pédiatrie	Letter to the editor	In this letter, the authors discussed the epidemiology, clinical characteristics, and outcomes of infants ≤1 year of age who had a positive RT-PCR test result for SARS-CoV-2 and were admitted to Lincoln Medical Center, New York, USA before April 26th, 2020. A total of 5 infants were identified (median age 3 months, range 10 days - 10 months). Three (60%) infants were healthy, one infant had congenital heart disease (ventricular septal defects), and one infant was born prematurely and had a history of neonatal respiratory distress syndrome and gastro-esophageal reflux. Two (40%) infants were obese. Four infants (80%) had a history of contact with someone who was sick, of whom one infant's mother had recently died from suspected SARS-CoV-2 pneumonia. Two (40%) infants were breastfed. The most prevalent presenting symptoms were fever (4 infants, 80%) and nasal congestion (3 infants, 60%). The median duration from symptom onset to admission was 3 days (range 1–3 days). Three (60%) infants had neutropenia with lymphocytosis. All the infants had favorable prognoses and were discharged home safely. The authors argued that the benign course of COVID-19 in infants in this study could relate to low expression of angiotensin-converting enzyme receptors in infant lungs and immaturity of the infant immune system.	The authors discussed the epidemiology, clinical characteristics, and outcomes of 5 infants with SARS-CoV-2 infection in Lincoln Medical Center, New York, USA and found a more favorable clinical course of COVID-19 in infants than in adults.	Suwanwongse K, Shabarek N. Epidemiology, clinical features, and outcomes of hospitalized infants with COVID-19 in the Bronx, New York [published online, 2020 Aug 6]. Arch Pediatr. 2020;S0929-693X(20)30169-X. doi:10.1016/j.arcped.2020.07.009

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Breastfeeding, human milk, postpartum, neonate outcomes	5-Aug-20	The COVID-19 liquid gold rush: Critical perspectives of human milk and SARS-CoV-2 infection	American Journal of Human Biology	Commentary	Breastfeeding and human milk are critical to maternal and infant health outcomes, especially during public health emergencies. Therefore, recommendations for infant feeding must rely on a complex decision-making process. Thus far, there is only limited and low-quality evidence available regarding COVID-19 and human milk. Of the COVID-19+ individuals who had milk tested, viral RNA was only detected in a small percentage, and repeat samples from the same individuals did not consistently yield identification of viral RNA. Further, there is no evidence that this RNA is infectious. Additionally, there is considerable evidence that the science used to support perinatal separation policies for COVID-19, including those strongly advising against breastfeeding or provision of human milk in the context of a SARS-CoV-2 infection, are disproportionately harming Black, Indigenous, and People of Color. The authors conclude that ecological studies of human milk, in which research studies are co-created with patients and where study findings are interpreted in the context of lived experiences, are a conceptual and methodological alternative to more extractive, reductionistic, and racist scientific approaches.	The authors discuss historical and current research on human milk with a focus on the current COVID-19 pandemic. They argue that studying human milk outside of human lived experiences is not only extremely limited but potentially harmful to vulnerable populations.	Palmquist AEL, Asiodu IV, Quinn EA. The COVID-19 liquid gold rush: Critical perspectives of human milk and SARS-CoV-2 infection [published online, 2020 Aug 5]. Am J Hum Biol. doi:10.1002/ajhb.23481
Vertical transmission, neonate, placenta, cord blood, amniotic	5-Aug-20	Vertical Transmission of SARS-CoV-2 (COVID-19): Are Hypotheses More than Evidences?	American Journal of Pediatrics	Review	The risk of fetal infection due to maternal-fetal transmission of SARS-CoV-2 remains highly debated. The detection of SARS-CoV-2 in the amniotic fluid, cord blood, and placentas of infected women lends biological plausibility to the theory of vertical transmission. This review provides an overview of the evidence for vertical transmission. The authors searched PubMed for articles relating to vertical transmission and SARS-CoV-2, only articles written in English or Italian were used. Despite viral RNA detection in cord blood and placental samples, no definitive reports of maternal-fetal transmission exist. While neonates have tested positive for SARS-CoV-2 after birth, this likely represents horizontal transmission from an infected mother or health care worker. IgG and IgM antibodies against SARS-CoV-2 have been found in cord blood, however the affected neonates all tested negative for viral material in blood and nasopharyngeal samples. SARS-CoV-2 has not been detected in breast milk samples, which supports recommendations for breastfeeding in women with suspected or confirmed infection. However, documentation of low ACE2 receptor expression in the placenta during early gestation, point to the need for further research articulating the risk of infection and transmission at different pregnancy stages.	The authors summarize the current knowledge surrounding SARS-CoV-2 and vertical transmission. They point to the need for additional studies to examine the risk of infection based on pregnancy stage as well as the need to ascertain long-term health outcomes for exposed neonates.	Auriti C, Domencio UDR, Tzialla C, et al. Vertical Transmission of SARS-CoV-2 (COVID-19): Are Hypotheses More than Evidences? [published online 2020 Aug 05]. Am J Perinatol. 2020. doi: 10.1055/s-0040-1714346.
breastfeeding, breast milk, neonatal health, immunity, midwives	4-Aug-20	Breastfeeding during the COVID-19 pandemic	European Journal of Midwifery	Letter to the Editor	In this letter to the editor, the author warns of the consequences of interrupting breastfeeding during infectious outbreaks, such as the current COVID-19 pandemic. WHO recommends that newborns be given breast milk exclusively for the first 6 months, continue receiving breast milk up to 2 years of age, after which they should be given complementary foods. The author recommends mothers delay weaning in infants and toddlers during any infectious outbreak, emphasizing the immune protections offered by breast milk. Furthermore, evidence has shown that the breast milk of mothers with COVID-19 may contain SARS-CoV-2 specific antibodies, which may then be passed on to the infant. In the event that a mother has been exposed to a person diagnosed with COVID-19, the author recommends she continue breastfeeding and take the following precautions: 1) wear a mask	This letter to the editor warns of the consequences of interrupting breastfeeding during the COVID-19 pandemic, and emphasizes the importance of breast milk to neonatal health and immunity. The author provides examples of precautionary measures that can be taken by mothers exposed to SARS-CoV-2 so that they can safely continue breastfeeding their infants.	Yurtsal ZB. Breastfeeding during the COVID-19 pandemic. Eur J Midwifery. 2020;4:31. Published 2020 Aug 4. doi:10.18332/ejm/123868

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					while breastfeeding or expressing milk; 2) wash hands for 20 seconds before breastfeeding; 3) ensure frequent ventilation in the environment; 4) wash clothes at 60-90°C; and 5) ensure optimal health by drinking plenty of fluids, balancing her diet, and getting regular sleep. Midwives can help protect and promote breastfeeding, especially by supporting breastfeeding initiation. The author also emphasizes the importance of guaranteeing protection and acceptable working conditions for midwives, so that they can focus on ensuring safe and family-centered care during the COVID-19 pandemic.		
Pregnancy, corticosteroids, oxygen support, ARDS, fetal lung maturity	4-Aug-20	Corticosteroids in the Management of Pregnant Patients With Coronavirus Disease (COVID-19)	Obstetrics & Gynecology	Current Commentary	The authors summarize the current evidence supporting steroid therapy in the management of patients with acute respiratory distress syndrome (ARDS) and COVID-19 and to elaborate on key modifications for the pregnant patient. Until recently, corticosteroid administration in patients with COVID-19 was discouraged because of concerns about potentially delaying viral clearance. Yet, preliminary evidence from the RECOVERY (Randomized Evaluation of COVID-19 Therapy) trial suggests that patients with COVID-19 who received dexamethasone had a significant reduction in 28-day mortality and that this benefit was greatest among patients receiving invasive mechanical ventilation, followed by patients receiving supplemental oxygen. However, an alternative approach for pregnant women is needed because exposure to repetitive courses of antenatal glucocorticoids has been associated with adverse neonatal outcomes. Therefore, the authors propose that when steroids are required for both fetal lung maturity and COVID-19, a four-dose course of dexamethasone over 2 days be used, followed by methylprednisolone to complete a 10-day course. Furthermore, if steroids are not indicated for fetal lung maturity or if the mother is breastfeeding, methylprednisolone can be used for the duration of the steroid course (10 days or up to discharge, whichever is sooner).	This article provides guidance on steroid administration in pregnant patients with COVID-19 who are on oxygen support and at risk for preterm birth. The authors suggest using methylprednisolone because of its limited placental transfer and documented efficacy in cases of acute lung injury.	Saad AF, Chappell L, Saade GR, Pacheco LD. Corticosteroids in the Management of Pregnant Patients With Coronavirus Disease (COVID-19) [published online ahead of print, 2020 Aug 4]. Obstet Gynecol. 2020;10.1097/AOG.0000000000004103. doi:10.1097/AOG.0000000000004103
Children, adolescents, fatality rate, Italy	3-Aug-20	After the First Wave of COVID-19: Reflections From Italy	The Pediatric Infectious Disease Journal	Report	COVID-19 was first described in China in December 2019 and declared a pandemic by the WHO in March 2020. Italy was the first European country to be severely affected. By May 20, more than 227,000 confirmed SARS-CoV-2 infections were registered, and more than 31,000 people had died, a much higher case-fatality rate (13.6%) than reported for China (2%–3%). There was also a concern of a more severe COVID-19 burden in Italian children, as compared with China where children (<18 years) accounted for only 2.4% of confirmed infections, most of them asymptomatic or with mild disease, and fatalities in children were only anecdotally reported. In Italy, there are an estimated 1 million children with comorbidities and each year about 11,000 children and adolescents (0–19 years) progress to terminal illness (Italian Society of Pediatrics). The role of children in the spread of the pandemic remains unclear. In general, they tend to be less symptomatic despite having a similar viral load in upper respiratory tract specimens as adults and shedding virus for up to 21 days. COVID-19 is a novel disease, and robust data on short- and long-term courses and outcomes are still lacking. Thus, a high level of suspicion for yet undescribed but important complications is warranted. The authors state that possibility of mother-to-child transmission through delivery or breastfeeding has not yet been clearly established.	The authors state that while severe disease, sequelae and death directly due to COVID may be rare in children, the secondary or indirect consequences could be far-reaching and more important. It is imperative to contain the virus and ensure proper practices to prevent further spread.	Galli L, Chiappini E, Schumacher R. After the First Wave of COVID-19: Reflections From Italy. Pediatric Infectious Disease Journal. 2020;39(8):e192-e194. doi:10.1097/inf.0000000000002806

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Breastfeeding, LMICs, child mortality, global health	3-Aug-20	Impact of COVID-19 on maternal and child health	The Lancet Global Health	Correspondence	The authors outline the potential negative social, economic, corporate, and health-system forces affecting a mother's decision to breastfeed that should be considered during the COVID-19 pandemic. These include limitations in the availability of skilled health workers and increased reluctance by women to use the health system, increased childcare demands during lockdown, and a threat to the societal enabling environment by formula manufacturers and fears of contagion. The authors estimated, using the Alive & Thrive cost of not breastfeeding tool, that a hypothetical effect of small (5%), moderate (10%), medium (25%), or severe (50%) relative reductions in the prevalence of breastfeeding due to COVID-19 disruptions would result in 16,469 (small reduction), 32,139 (moderate reduction), 75,455 (medium reduction), and up to 138,398 (severe reduction) child deaths across 129 LMICs over a 1-year period. This analysis supports the call for continued support from governments to promote and protect breastfeeding.	The authors calculated the effect of relative reductions in the prevalence of breastfeeding due to COVID-19 disruptions on child deaths across 129 LMIC. This analysis is a call to action for ongoing support from governments to support breastfeeding practices.	Busch-Hallen J, Walters D, Rowe S, et al. Impact of COVID-19 on maternal and child health [published online 2020 Aug 3]. The Lancet Global Health. 2020; doi.org/10.1016/S2214-109X(20)30327-2
Neonate, care approaches, vertical transmission, mother-to-infant transmission, maternal health	3-Aug-20	Novel Corona Virus Pandemic and Neonatal Care: It's Too Early to Speculate on Impact!	SN Comprehensive Clinical Medicine	Review	The authors performed a review to describe approaches to neonatal care during the COVID-19 pandemic. They explored care approaches in SARS-CoV-2 positive pregnant women, disease presentation in neonates, and management of infection in neonates. In particular, they discuss risks of severe disease, pre-term deliveries, and impacts on fetal development in pregnant women with COVID-19. Further, they outline risks of perinatal spread from symptomatic mothers and post-natal transmission from parents and caregivers to neonates. The authors note that proper IPC measures should be considered such as PPE, reduced skin-to-skin contact among infected mothers, and social distancing in obstetric and neonate wards. The authors suggest symptomatic mothers to provide formula and expressing and discarding the milk; If mother is asymptomatic, they advise her to breast feed directly wearing a mask or express breast milk wearing a mask and an unaffected relative/carer could feed the baby. The authors conclude by suggesting local teams collaborate to ensure that neonatal care protocols are appropriately modified to accommodate the evolving knowledge and literature on the COVID-19 pandemic.	The authors describe key elements in approaches to neonatal care including transmission risks and risks of symptomatic mothers during the COVID-19 pandemic. Care protocols should be modified by collaborative efforts to accommodate new knowledge of COVID-19. The authors provide detailed descriptions on when to use formula, discard breastmilk and when breatfeeding is advised.	Kalyanasundaram S, Krishnamurthy K, Sridhar A et al. Novel Corona Virus Pandemic and Neonatal Care: It's Too Early to Speculate on Impact!. [published online, 2020 Aug 3]. SN Compr Clin Med. 2020;1-7. doi:10.1007/s42399-020-00440-8
Neonatal, international collaboration, registry	3-Aug-20	Neonates in the COVID-19 pandemic	Pediatrics Research	Commentary	While the COVID-19 pandemic has predominantly affected adults sparing infants and neonates from severe infection, the long-term effects and sequalae of perinatal SARS-CoV-2 exposure are unknown. Even though studies have identified viral RNA in placental membranes and breast milk, definitive vertical transmission remains ambiguous. Breast milk of mothers who contracted COVID-19 may also provide antibodies against SARS-CoV-2 in the perinatal period. The authors note that this rapidly evolving situation has led to a wide variation in the recommendations for the medical and social management of infants born to SARS-CoV-2 positive mothers. During this time, NICUs have faced additional obstacles, such as decreased financial, spatial, and medical resources. However, the challenges of the pandemic have led to international collaboration between neonatal providers and researchers, in the form of large registry studies and multi-center clinical trials. The authors propose using this as an opportunity to develop and maintain an international neonatal collaborative working group, which	The authors provide commentary about the impact of the COVD-19 pandemic on neonatal care and call for increased global collaboration within this unprecedented situation. This collaboration will build an evidence-based neonatal disaster response system and develop a comprehensive neonatal registry database.	Molloy EJ, Lavizzari A, Klingenberg C, et al. Neonates in the COVID-19 pandemic [published online ahead of print, 2020 Aug 3]. Pediatr Res. 2020;10.1038/s41390-020-1096-y. doi:10.1038/s41390-020-1096-y

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					already includes over 90 countries, to further addresses neonatal disaster preparedness.		
Breastfeeding, LMICs, morbidity, newborns	3-Aug-20	Impact of COVID-19 on maternal and child health	The Lancet	Correspondence	Anecdotal evidence suggests that some health facilities are separating newborns from mothers and discouraging breastfeeding because of unfounded fears of transmission of COVID-19 through breastmilk. These situations might result in a decline in early initiation of breastfeeding after birth—missing the child's first natural vaccine (colostrum)—and, in turn, exclusive breastfeeding. The authors estimate, using the Alive & Thrive cost of not breastfeeding tool, that a hypothetical effect of small (5%), moderate (10%), medium (25%), or severe (50%) relative reductions in the prevalence of breastfeeding due to COVID-19 disruptions would result in 16,469 (small reduction), 32,139 (moderate reduction), 75,455 (medium reduction), and up to 138,398 (severe reduction) child deaths across 129 LMICs over a 1-year period.	This analysis highlights the need for continued support to promote and protect breastfeeding by revealing substantial morbidity and mortality repercussions from possible pandemic-related disruptions to breastfeeding.	McClure EM, Kinney MV, et al. Impact of COVID-19 on maternal and child health. The Lancet. 2020. Available online 3 August 2020. doi.org/10.1016/S2214-109X(20)30326-0
Pregnancy, postpartum, public health, HIV, PrEP, South Africa	3-Aug-20	PrEP retention and prescriptions for pregnant women during COVID-19 lockdown in South Africa	The Lancet	Correspondence	In sub-Saharan Africa, HIV risk is high during pregnancy and breastfeeding and could increase during the COVID-19 pandemic because of reduced access to HIV prevention and treatment services. Pre-exposure prophylaxis (PrEP) is an essential and effective prevention intervention during pregnancy and the post-partum period. The authors evaluated the effect of the national COVID-19 lockdown in South Africa on study visits and PrEP prescriptions among pregnant women in antenatal care. From August 2019 to June 2020, 455 HIV negative pregnant women (aged > 16 years old) were enrolled. During the nationwide lockdown, missed PrEP visits increased significantly to 63% at the 1-month visit and to 55% at the 3-month visit. The relative risk of missing a study visit increased during lockdown compared with before lockdown (odds ratio: 2.36, 95% CI: 1.73–3.16). The authors conclude that these data indicate the profound effect that the South African response to the COVID-19 pandemic might have on HIV prevention efforts.	In a study of HIV negative pregnant and post-partum women in South Africa, missed appointments for pre-exposure prophylaxis (PrEP) increased during a nationwide lockdown due to the COVID-19 pandemic. Participants cited fear of COVID-19 and contact with the health facility as common barriers.	Davey DLJ, Bekker LG, Mashele N et al. PrEP retention and prescriptions for pregnant women during COVID-19 lockdown in South Africa. [published online, 2020 Aug 3]. The Lancet. doi:https://doi.org/10.1016/S2352-3018(20)30226-5
COVID-19; preterm neonate; pneumonia; vertical transmission; length of stay	3-Aug-20	Neonatal COVID-19 Pneumonia: Report of the First Case in a Preterm Neonate in Mayotte, an Overseas Department of France	Multidisciplinary Digital Publishing Institute	Case Report	The authors report the first case of COVID-19 pneumonia in a preterm neonate born in Mayotte, France, in which vertical transmission is suspected. After admission to the delivery emergencies unit for active labor at 33 weeks of gestation, a 36-year-old multiparous woman tested positive for COVID-19. Following immediate transfer to the neonatal ICU where he was in a closed incubator, the newborn tested positive for COVID-19 at 24 hours of life. The authors presume that preterm labor is linked to the mother's COVID-19 infection and that the mode of transmission in this case is most likely to be vertical given the short time it took for the neonate to become COVID-19 positive after delivery and the absence of contact with the mother after delivery as she was symptomatic. Breastfeeding was excluded as the route of transmission as the infant was exclusively formula fed. By 14 days of life, the infant developed a fever with progressive signs of increased breathing difficulties. A thoracic computed tomography scan revealed bilateral ground glass opacities and consolidations, and echocardiography showed a mild pericardial effusion (3 mm). This case emphasizes the need for a cautious and close follow-up period for asymptomatic neonates born to mothers with COVID-19 infection as worsening respiratory symptoms may appear secondarily	Premature infants born to mothers with a COVID-19 infection may also have a COVID-19 infection, presumably via vertical transmission. This case report emphasizes the need for a cautious and close follow-up period for asymptomatic neonates born to mothers with COVID-19 infection.	Abasse S, Essabar L, Costin T, et al. Neonatal COVID-19 Pneumonia: Report of the First Case in a Preterm Neonate in Mayotte, an Overseas Department of France. Children (Basel). 2020;7(8):E87. Published 2020 Aug 3. doi:10.3390/children7080087

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Pregnancy, neonate, vertical transmission, India	2-Aug-20	Early-onset symptomatic neonatal COVID-19 infection with high probability of vertical transmission	Infection	Case Report	This case report describes early-onset, severe COVID-19 course in a neonate. A mother, who tested negative by RT-PCR but tested positive for SARS-CoV-2 by serology, delivered a term baby. The neonate was kept in strict isolation. Molecular tests for SARS-CoV-2 on the umbilical stump, placenta, and nasopharyngeal aspirate of the neonate, collected at the time of birth, were positive. On day 2, the neonate developed clinical features of COVID-19 in the form of fever, poor feeding, and hyperbilirubinemia along with elevated inflammatory markers. A clinical diagnosis of neonatal sepsis was made, and antibiotics were provided. Blood, CSF, and urine cultures were sterile. The neonate tested RT-PCR positive for SARS-CoV-2 on two more occasions before testing positive for antibodies and was discharged on day 21 of life. This report presents a case with strong possibility of vertical transmission of COVID-19 from a mildly symptomatic, RT-PCR negative but antibody-positive mother.	This case report presents a strong possibility of vertical transmission from a mother with serology positive for SARS-CoV-2 antibodies to a neonate who developed symptomatic COVID-19 infection.	Kulkarni R, Rajput U, Dawre R, et al. Early-onset symptomatic neonatal COVID-19 infection with high probability of vertical transmission [published online 2020 Aug 2]. Infection. 2020. doi:10.1007/s15010-020-01493-6
Pregnancy, anxiety, stress, Singapore, breast-feeding, transmission	1-Aug-20	Perception and Feelings of Antenatal Women during COVID-19 Pandemic: A Cross-Sectional Survey	Annals of the Academy of Medicine, Singapore	Original Research	This study aimed to assess the baseline knowledge regarding COVID-19 and the level of anxiety, depression, and stress in an obstetric population in Singapore. A cross-sectional survey was conducted in a large tertiary maternity unit in Singapore, from March 31-April 25, 2020. The survey assessed the knowledge of 324 pregnant women regarding COVID-19 infection, their perceptions of its impact on pregnancy, and the psychological impact of the pandemic using the validated Depression, Anxiety, and Stress Scales (DASS-21). The mean age of participants was 31.8 years (range 20–45). 77.5% (n = 251) of women felt that pregnant women were more likely to get COVID-19 infection, while 42.6% (n = 138) thought that pregnant women would have a severe illness if infected. Most women (83.0%, n = 269) believed that COVID-19 would be transmitted to the neonate antenatally. 74.7% (n = 242) associated breast-feeding with an increased risk of transmission to their newborns. 35.8% (n = 116) of antenatal women screened positive for anxiety, 18.2% (n = 59) screened positive for depression, and 11.1% (n = 36) screened positive for stress. Women who believed that COVID-19 infection would be passed to their infants antenatally or would cause fetal anomalies had significantly higher anxiety scores [B = −0.376, 95% CI, −0.704 to −0.0490 and B = −0.395 (95% CI, −0.660 to −0.130) respectively]. The authors conclude that the study highlights how a lack of timely and reliable information on COVID-19 in pregnancy leads to knowledge gaps in antenatal women, with a significant proportion of women reporting increased levels of anxiety and stress.	The authors assessed the level of knowledge of pregnant women in Singapore regarding COVID-19 in pregnancy. They found that lack of information led to knowledge gaps which were associated with increased levels of anxiety and stress.	Ng QJ, Koh KM, Tagore S, Mathur M. Perception and Feelings of Antenatal Women during COVID-19 Pandemic: A Cross-Sectional Survey. Ann Acad Med Singap. 2020 Aug;49(8):543-552. PMID: 33164024.
Breastfeeding, skin-to-skin contact, neonatal care, neonates, childbirth, patient education,	1-Aug-20	Skin-to-Skin Care and COVID-19	Pediatrics	Article	Many physicians and mothers find themselves weighing the unknown risk of transmitting SARS-CoV-2 against the known costs of separation from an infant during the first days of life. The American Academy of Pediatrics recommends mothers with COVID-19 to physically separate from the infant whenever space allows, while the WHO encourages breastfeeding initiation within an hour of birth and routine newborn care with emphasis on respiratory and hand hygiene. Limited evidence suggests risk of transmission from mother to child is low; therefore, the potential benefit of isolation does not necessarily justify denying the known health benefits of skin-to-skin contact and breastfeeding. The author recommends policies that allow for	This article weighs the known benefits of skin-to-skin contact and breastfeeding with infants during the first days of life against incomplete evidence that suggests low risk of SARS-CoV-2 transmission. The author recommends informed patient choice.	Boscia C. Skin-to-Skin Care and COVID-19. [Published online, 2020 Aug 1]. Pediatrics. 2020;146(2):e20201836. doi:10.1542/peds.2020-1836

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					patient choice in light of incomplete evidence and calls for maternal protections that minimize risk before and after delivery such as paid parental leave and safety-net programs for vulnerable families.		
COVID-19; pregnancy; anesthesia; c. section; Greece	31-Jul-20	Lessons learned from first case of Cesarean delivery in a COVID-19 positive parturient in Greek region	Journal of Anaesthesiology Clinical Pharmacology	Case Report	The authors describe the first case in the Greek region of a 24-year-old woman with an active SARS-CoV-2 infection who was scheduled for elective C-section at 40th week of pregnancy. Details regarding management of surgery in pregnancy in a COVID-19 referral center tertiary hospital are discussed. The patient presented with mild upper respiratory symptoms and fever 5 days before surgery, but COVID-19 was officially diagnosed the day of delivery based on the diagnostic criteria established by the Hellenic National Public Health Organization. The operating room (OR) without active aeration used exclusively for COVID-19 positive parturients was selected for the surgery and post-anesthesia care. Minimum personnel were present including 2 obstetricians, 1 anesthesiologist, 1 anesthesiology nurse, 1 scrub nurse and 1 circulating nurse/midwife, and appropriate PPE utilized (coverall Tyvec gown, FFP3 mask, glasses, double gloves head cover and shoe covers). The surgery lasted 1 hr and the patient was hemodynamically stable during the procedure. Postoperative analgesia was achieved with wound infiltration with ropivacaine 0.375% (20 ml), paracetamol 1 g, and tramadol 100 mg. The patient was transferred to a designated COVID-19 ward and the infant was kept apart from the mother for 15 days with no breastfeeding. Chlorine solution 5000 ppm/L of water and 70% alcohol solution was used to disinfect the OR and instruments.	The authors describe the first case in the Greek region of a 24-year-old woman with an active SARS-CoV-2 infection who was scheduled for elective C-section at 40th week of pregnancy. Details regarding management of surgery in pregnancy in a COVID-19 referral center tertiary hospital are discussed.	Batistaki C, Galarioti V, Vasiliadou S. Lessons learned from first case of Cesarean delivery in a COVID-19 positive parturient in Greek region. J Anaesthesiol Clin Pharmacol. 2020;36, Suppl S1:121-4. doi:10.4103/joacp.JOACP_157_20
Pregnancy, neonates, C-section, breastfeeding, Latin America	31-Jul-20	Perinatal COVID-19 in Latin America [Article available in Spanish only]	Revista Panamericana de Salud Publica	Original Article	The authors aimed to evaluate and to report the clinical characteristics and outcomes of SARS-CoV-2 infection in pregnant women and newborns in Latin America. Of 86 pregnant women with COVID-19 in seven countries, 59 patients (68%) were asymptomatic. Among symptomatic women (27/86, 32%), 24 patients (89%) had mild symptoms and three (3.5%) had severe respiratory symptoms. No deaths were reported. The C-section rate was 38%. Gestational age was < 37 weeks in 6% of cases. Six neonates (7%) were positive upon testing between 16-36 hours of age, and they all presented mild and transient respiratory distress. Breastfeeding was authorized in only 24% of mothers. In 76% of cases, the mother-child pair was separated, In 95% of cases, the mother was not accompanied at delivery or during the postpartum period. The authors found that the lack of maternal support, the low rate of breastfeeding, and the frequent separation of mother-child dyads were concerning.	The authors evaluated pregnancy outcomes of COVID-19 patients in Latin America (n=86). Due to their findings, they urge health care teams to reflect on the need to support humanized and family-centered care during the current pandemic.	Sola A, Rodríguez S, Cardetti M, Dávila C. COVID-19 perinatal en América Latina [Perinatal COVID-19 in Latin America]. [published online, 2020 Jul 31]. Rev Panam Salud Publica. doi:10.26633/RPSP.2020.47
Pregnancy, mother-infant separation, breastfeeding	27-Jul-20	Review of guidelines and recommendations from 17 countries highlights the challenges that clinicians face caring for neonates born to	Acta Paediatrica	Review article	This systematic review examined how applicable national and regional clinical practice guidelines and recommendations for managing neonates born to mothers with COVID-19 were to the evolving pandemic. This review identified 20 guidelines and recommendations from 17 countries that had been published by 25 May 2020. The documents were based on expert consensus with limited evidence and were of variable, low methodological rigor. Most did not provide recommendations for delivery methods or managing symptomatic infants. None provided recommendations for post-discharge assimilation of potentially-infected infants into the community. The majority encouraged keeping mothers and infants together, subject to	This review of national and regional clinical practice guidelines and recommendations for managing neonates born to mothers with COVID-19 found that the available guidelines were of low, variable quality and may be unsustainable.	Yeo KT, Oei JL, De Luca D, et al. Review of guidelines and recommendations from 17 countries highlights the challenges that clinicians face caring for neonates born to mothers with COVID-

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		mothers with COVID-19 [Free Access to Abstract Only]			infection control measures, but one-third recommended separation. Although breastfeeding or using breastmilk were widely encouraged, two countries specifically prohibited this. Practice guidelines should emphasize the extent of uncertainty and clearly define gaps in the evidence.		19 [published online 2020 Jul 27]. Acta Paediatr. 2020. doi:10.1111/apa.15495
Protocol, breastfeeding, infants, risk, transmission, breast milk, formula	27-Jul-20	Feeding strategies to prevent neonatal SARS-CoV-2 infection in term or late preterm babies born to mothers with confirmed COVID-19 [Free Access to Abstract Only]	Cochrane Database of Systematic Reviews	Protocol	The authors describe the protocol for a Cochrane review to assess the effects of feeding practices on the risk of SARS-CoV-2 infection in neonates ≥ 34 weeks' gestation born to mothers with confirmed SARS-CoV-2 infection. Different interventions have been recommended or implemented: withholding of any mother's milk and instead feeding with formula milk or donor breast milk; feeding with expressed breast milk; and breastfeeding with precautions, which include face mask and hand hygiene. This review will compare the risk of SARS-CoV-2 infection in neonates receiving such interventions to the risk in those who are breastfed or fed breast milk. There are 3 possible ways in which the different types of feeding can impact the transmission to the infant, including (1) the transmission of the virus present in the mother's own unpasteurized breast milk, (2) the exposure of the infant to infectious droplets from the mother as a result of the close proximity during breastfeeding, and (3) SARS-CoV-2 specific antibodies in breast milk. Criteria for considering studies, search methods for identification of studies, data collection and analysis, and assessment for bias are described in the protocol.	The authors describe the protocol for a Cochrane review that will compare outcomes associated with different feeding practices for infants born of mothers with confirmed COVID-19 worldwide.	Babata KL, Yeo KT, Chan CS, et al. Feeding strategies to prevent neonatal SARS-CoV-2 infection in term or late preterm babies born to mothers with confirmed COVID-19. Cochrane Database of Systematic Reviews 2020, Issue 7. Art. No.: CD013691. DOI: 10.1002/14651858.CD013691.
Breastfeeding, transmission, breast milk, infant health, policy	25-Jul-20	Mistakes from the HIV pandemic should inform the COVID-19 response for maternal and newborn care	International Breastfeeding Journal	Commentary	The authors share concerns that in many countries, policymakers and practitioners are giving more weight to the risk of SARS-CoV-2 transmission than to the consequences of maternal separation and reducing breastfeeding. During the HIV pandemic, policies moved away from breastfeeding over concerns of HIV transmission but had a devastating impact on infant mortality in many middle- and low-income countries. More infants lost their lives through diarrhea and pneumonia related to infant formula feeding than those who lost their lives through HIV infection. Additionally, the transmission of SARS-CoV-2 is through respiratory droplets, and although a small number of cases detected viral SARS-CoV-2 RNA particles in expressed breastmilk, no live virus has been found and breastmilk is not thought to be a transmission route. Even when transmission occurs, it rarely causes complications or death for the neonate. The current WHO guidelines support breastfeeding or use of expressed breast milk during maternal COVID-19 infection, with proper hygiene precautions. The authors conclude that the substantial evidence of the importance of maternal proximity and breastfeeding for child survival, development, and health should not be ignored to avoid repeating the mistakes of the HIV pandemic.	Policies against breastfeeding during the HIV pandemic had devastating effects on infant mortality. The authors caution against similar policies during the SARS-CoV-2 pandemic, especially since breastfeeding is not thought to carry major risk.	Gribble, K., Mathisen, R., Ververs, M. et al. Mistakes from the HIV pandemic should inform the COVID-19 response for maternal and newborn care. Int Breastfeed J 15, 67 (2020). https://doi.org/10.1186/s13006-020-00306-8
Newborn, vertical transmission, postnatal care, breastfeeding, neonatal risk	23-Jul-20	A review of newborn outcomes during the COVID-19 pandemic	Seminars in Perinatology	Review Article	The authors reviewed the available literature on newborns born to infected mothers. In the over 800 newborns reported on, the incidence of vertical transmission has proven to be low. Adverse newborn outcomes seem to be a function of maternal disease status rather than illness due to SARS-CoV-2 infection . Furthermore, postnatal transmission through any route other than respiratory particles shared between mother and newborn appears to	This review shows that newborns of mothers with positive/suspected SARS-CoV-2 infection rarely acquire the disease or show adverse clinical outcomes. The authors suggest that strict	Kyle MH, Glassman ME, Khan A, et al. A review of newborn outcomes during the COVID-19 pandemic [published online

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					be unlikely. The benefits conferred by early exposure to the mother, direct breastfeeding, and delayed bathing have a far more substantial body of supporting evidence, and therefore, the established benefits of these practices appear to outweigh the risk of viral transmission to the newborn. The available data on newborn outcomes, and the postnatal care practices used in the context of these outcomes, suggest that a re-framing of the perceived neonatal risk imposed by SARS-CoV-2 is necessary.	postnatal care policies may be more likely to adversely impact newborns.	ahead of print, 2020 Jul 23]. Semin Perinatol. 2020. doi:10.1016/j.semperi.2020.151286
Neonatal, vertical transmission, pregnancy, USA	23-Jul-20	Neonatal management and outcomes during the COVID-19 pandemic: an observation cohort study	The Lancet. Child & Adolescent Health	Articles	This observational cohort study aimed to elucidate best practices regarding infection control in mother–newborn dyads and identify potential risk factors associated with transmission. Of 1481 deliveries between March 22nd and May 17th 2020 at three New York Presbyterian Hospitals in New York City, USA 116 (8%) mothers tested positive for SARS-CoV-2; 120 neonates were identified. Mothers could practice skin-to-skin care and breastfeed in the delivery room, but had to wear a surgical mask when near their neonate and practice proper hand hygiene before skin-to-skin contact, breastfeeding, and routine care. All neonates were tested at 24 h of life and none were positive for SARS-CoV-2. 82 (68%) neonates completed follow-up at day 5–7 of life. Of the 82 neonates, 68 (83%) roomed in with the mothers. All mothers were allowed to breastfeed: at 5–7 days of life, 64 (78%) were still breastfeeding. 79 (96%) of 82 neonates had a repeat PCR at 5–7 days of life, which was negative in all; 72 (88%) neonates were also tested at 14 days of life and none were positive. None of the neonates had symptoms of COVID-19. Findings suggested that perinatal transmission of COVID-19 is unlikely to occur if correct hygiene precautions are undertaken, and that allowing neonates to room in with their mothers and direct breastfeeding are safe procedures when paired with effective parental education of infant protective strategies.	To authors' knowledge, this was the largest cohort of neonates born to mothers positive for SARS-CoV-2 at the time of delivery, with prospective follow-up up to 1 month of life and prospective real-time PCR testing for SARS-CoV-2 was negative in all 63 neonates tested at 1 week and 2 weeks of life. None of the neonates had symptoms of COVID-19 as of 1 month of age.	Salvatore CM, Han JY, Acker KP, et al. Neonatal management and outcomes during the COVID-19 pandemic: an observation cohort study [published online, 2020 Jul 23]. Lancet Child Adolesc Health. doi:10.1016/S2352-4642(20)30235-2
Pregnancy, delivery, childbirth, neonate, USA	23-Jul-20	Management of mother-newborn dyads in the COVID-19 era	The Lancet	Comment	Guidance regarding the care of neonates whose mothers have confirmed or suspected COVID-19 is conflicting. In this article, the author provides commentary on the article by Salvatore et al. 2020 on the results of their observational cohort study in New York, USA of 120 neonates born to 116 mothers who were positive for SARS-CoV-2. The author describes the key findings of the article by Salvatore et al. 2020 for the management of and infection control in mother-neonate dyads during the COVID-19 pandemic. Subsequently the author summarizes key messages from the study, such as that rooming-in of newborns and breastfeeding were found safe when accompanied by mask-wearing and frequent hand and breast hygiene practices. Another key finding was that no neonates tested positive for SARS-CoV-2, and all remained asymptomatic. The author of this comment concludes that there remain several important questions regarding pregnancy and neonate outcomes as well as transmission rates of SARS-CoV-2 in these populations during the COVID-19 pandemic.	The author describes the main findings of the mother-neonate dyad observational study by Salvatore et al. 2020. The study showed that perinatal SARS-CoV-2 transmission was unlikely.	Medvedev MM. Management of mother-newborn dyads in the COVID-19 era [published online, 2020 Jul 23]. Lancet Child Adolesc Health. doi:10.1016/S2352-4642(20)30241-8
Surveillance, pediatric, national, India	23-Jul-20	COVID-19 in Different Age Groups of Children: Initial Impression from	Indian Journal of Pediatrics	Commentary	This commentary provided a brief analysis of COVID-19 in different age groups of children in India based on national disease surveillance data. The data revealed that the economically productive age group (21-50 years old) accounted for most (60%) of the total cases in the country, followed by those below 20 years of age (13%). The majority of the reported cases	The commentary briefly analyzed the data from national COVID-19 surveillance data in India and stated a need for further studies,	Kulkarni SV, Chauhan H. COVID-19 in Different Age Groups of Children: Initial Impression from

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		Integrated Disease Surveillance Programme (IDSP) under National Centre for Disease Control (NCDC)			among children were older than 5 years. The authors stated that information on clinical presentation and disease severity among neonates was very limited. The reported signs among the limited number of neonates with confirmed SARS-CoV-2 infection included fever, cough, tachypnea, strenuous breathing, vomiting, diarrhea, lethargy, rhinorrhea, and feeding difficulties. The authors concluded that further studies are needed about the virus and its manifestations, especially among the pediatric age group.	especially studies on the pediatric age group.	Integrated Disease Surveillance Programme (IDSP) under National Centre for Disease Control (NCDC) [published online, 2020 Jul 23]. Indian J Pediatr. doi:10.1007/s12098-020-03457-y
Pregnancy, Cystic Fibrosis, Australia	23-Jul-20	COVID-19 in a Complex Obstetric Patient with Cystic Fibrosis	Infection, Disease, and Health	Case Report	The authors describe the case of a 42-year-old transgender patient G2P1 (genetically female, identifying as male) at 39 + 3 weeks gestation with underlying cystic fibrosis, admitted to a Tertiary hospital in Queensland Australia for respiratory symptoms. Of note, his female partner was admitted the day prior with symptoms following international travel and tested positive for SARS-CoV-2. Consequently, the patient's test results returned as positive for SARS-CoV-2 by RT-PCR on day 3 of admission. His clinical course was managed by a multidisciplinary team and included daily chest physiotherapy for sputum clearance and close monitoring of his respiratory function. The patient subsequently underwent induction of labor at 40 + 1 weeks gestation and delivered a healthy baby by spontaneous vaginal delivery. In consideration of the family's wishes, the patient's partner was supported to attend the birth with the use of PPE. Post-delivery, the patient remained stable with reduction in sputum, with no antibiotics or corticosteroids required. Of note, SARS-CoV-2 remained detectable on day 8 of admission. However, no transmission to the neonate was detected despite immediate and ongoing contact post-delivery with SARS-CoV-2 antibodies detectable in the patient's serum and breast milk. The patient was discharged for self-isolation on post-partum day 3 and his SARS-CoV-2 RNA levels were undetectable at the time of discharge.	This case demonstrates that patients with cystic fibrosis and pregnancy can have favorable outcomes in the setting of COVID-19. These patients should be managed by a multidisciplinary team to ensure optimal care, including infection control to prevent transmission, and consideration of parental wishes with regards to delivery and care of the neonate following birth.	Walczak A et al. COVID-19 in a Complex Obstetric Patient with Cystic Fibrosis. Infectious Disease & Health. 2020; DOI:https://doi.org/10.1016/j.idh.2020.07.002
Pregnancy, transmission, perinatal management, breastfeeding, Portugal, Spain	23-Jul-20	Perinatal management of SARS-CoV-2 infection in a level III University Hospital [Free Access to Abstract only]	Journal of Maternal-Fetal and Neonatal Medicine	Case Series	The authors describe the perinatal management of the first ten consecutive mother-infant dyads with pregnancy complicated by SARS-CoV-2 infection at the time of delivery in a Level 3 hospital in Portugal. After delivery, one mother was admitted to the ICU for 48 hours and placed under high flow oxygen therapy with a favorable outcome. All newborns were transferred in a closed incubator to the NICU. Using a shared-decision making model, nine mothers chose to stimulate lactation with pump extraction under strict infection control measures and all of these women chose to discard extracted milk until RT PCR SARS-CoV-2 negativity. One mother chose not to stimulate lactation. All newborns remained symptom free and tested negative for SARS CoV2 at birth and at 48 hours of life. In this case series there was no evidence of vertical transmission of SARS-CoV-2 infection. Since all the mother-infant dyads were separated, no case of horizontal transmission occurred. No expressed milk was given to newborns until negative testing for maternal SARS-CoV-2 was confirmed.	In this case series of ten pregnancies complicated by maternal SARS-CoV-2 infection at the time of delivery in Portugal, there was no evidence of vertical or horizontal transmission. Infants were separated and not fed breastmilk until maternal testing was negative.	Pissarra S, Rosário M, Moucho M, Soares H. Perinatal management of SARS-CoV-2 infection in a level III University Hospital [published 2020 Jul 23]. J Matern Fetal Neonatal Med. 2020;1-4. doi:10.1080/14767058.2020.1786526

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Breastfeeding, mother-infant separation, mother-infant transmission, California, USA	21-Jul-20	Protecting Breastfeeding during the COVID-19 Pandemic	American Journal of Perinatology	Review Article	The authors describe variable breastfeeding recommendations for suspected or confirmed mothers with COVID-19 resulting from incomplete knowledge about COVID-19 transmission. Due to the potential concern for transmission of infection from maternal respiratory secretions to the newborn, temporary separation of the maternal-infant dyad has been variably recommended, which can have negative health and emotional implications for both mother and infant. Two publications have reported SARS-CoV-2 in human breast milk, but the role of breast milk as a vehicle of transmission of COVID-19 to newborns remains unclear. Breast milk may be providing protective antibodies against SARS-CoV-2 infection even in infected neonates. Given the overall safety of breast milk and both short-term and long- term nutritional, immunological, and developmental advantages of breast milk to newborn, the authors recommend that breast milk should not be withheld from an infant. The setting of maternal care, severity of maternal infection and availability of resources can impact the decision of breastfeeding. The role of shared decision making on breastfeeding between mother and physician needs to be emphasized.	The authors recommend direct breastfeeding with appropriate hygiene precautions, unless the maternal or neonatal health condition warrants separation of this dyad.	Cheema R, Partridge E, Kair LR, et al. Protecting Breastfeeding during the COVID-19 Pandemic [published online 2020 Jul 21]. Am J Perinatol. 2020. doi:10.1055/s-0040-1714277
Breastfeeding, facilities, design, US, China	21-Jul-20	Unprotected mothers and infants breastfeeding in public amenities during the COVID-19 pandemic	Environmental Chemistry Letters	Editorial	Recent literature reporting SARS-CoV-2 suspension in the ambient air has sparked concerns, particularly for breastfeeding facilities. When utilizing public breastfeeding amenities, mothers can wear masks, but infants are unable to protect themselves from direct exposure to indoor air via mask-wearing. Further, infants maintain a faster breathing rate that places them at an increased risk for exposures to airborne pathogens in public settings. Recent surveys in both the US and China have found issues in the design of lactation facilities. In China 70% of those facilities were located next to public toilets and only 35% of the rooms had good ventilation in China. Temperature control was found in only 40% of facilities on US university campuses. Alternative use of public toilets for breastfeeding presents additional threats such as elevated risk of exposure to other fecal-oral pathogens. The authors conclude by suggesting improved regulatory guidelines for breastfeeding facility design including larger spaces, exhaust fans, and windows to safely maintain the recommended breastfeeding practices for women and infants during the pandemic.	The authors outline issues with the current design of some public breastfeeding amenities with concerns of SARS-CoV-2 suspension in the ambient air. They suggest adding exhaust fans and windows as design improvements to ensure that recommended breastfeeding practices are safely maintained during the pandemic.	Wang X, Han J, Lichtfouse E. Unprotected mothers and infants breastfeeding in public amenities during the COVID-19 pandemic [published online ahead of print, 2020 Jul 21]. Environ Chem Lett. 2020;1-4. doi:10.1007/s10311-020-01054-1
Pregnancy, vertical transmission, placenta, neonate, breast milk	21-Jul-20	Vertical transmission of SARS CoV-2: a systematic review [Free Access to Abstract only]	The Journal of Maternal-Fetal & Neonatal Medicine	Review Article	The authors sought to review the current evidence on the vertical transmission of SARS-CoV-2 through a search of online databases of the published literature. They included 50 studies in this review, which included data from 606 neonates. Among these, 17 newborns tested positive for SARS CoV-2 by RT-PCR. In three neonates, SARS-CoV-2 IgG and IgM levels were elevated. Eight placental tissues tested positive for the virus. Three positive RT-PCR results of test of breast milk were also recently reported. One sample of amniotic fluid tested positive. The authors conclude that possible vertical transmission of SARS CoV-2 has been observed; however, more RT-PCR tests on amniotic fluid, placental tissue, breast milk, and cord blood are required.	The authors conclude that there is potential for vertical transmission of SARS-CoV-2 due to detection of viral RNA in placental tissues. They also review the current evidence of adverse fetal and maternal outcomes associated with SARS-CoV-2 due to its effects on the placenta.	Deniz M, Tezer H. Vertical transmission of SARS CoV-2: a systematic review. [published online, 2020 Jul 21]. Matern Fetal Neonatal Med. doi:https://doi.org/10.1080/14767058.2020.1793322

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Breastfeeding, access to care, maternal concerns, Australia	20-Jul-20	Providing breastfeeding support during the COVID-19 pandemic: Concerns of mothers who contacted the Australian Breastfeeding Association	medRxiv	Preprint (not peer-reviewed)	An online survey conducted from 16 March to 18 May 2020 was completed by Australian Breastfeeding Association (ABA) volunteers to assess the concerns of mothers seeking breastfeeding support during the COVID-19 pandemic as well as the experiences of volunteers who assisted them. The online survey was completed 211 times and described the concerns of 340 individual contacts. The most common breastfeeding concerns were related to insufficient milk or weight gain, painful breasts, re-lactation, and reducing supplemental milk (infant formula). Concerns about milk supply and infant weight gain were exacerbated by lack of health care access and the inability of infants to be weighed. 129 (61%) of mothers informed volunteers they were unable to access face-to-face health services because of fear or unavailability. Volunteers reported feeling distressed for mothers but well equipped to assist and were satisfied providing assistance.	The findings of this study suggest that the COVID-19 pandemic has impacted the concerns Australian women have toward breastfeeding practices, especially without access to face-to-face healthcare services.	Hull, N, Kam, L, Gribble, K. Providing breastfeeding support during the COVID-19 pandemic: Concerns of mothers who contacted the Australian Breastfeeding Association. [published 2020 July 20] medRvix. doi: 10.1101/2020.07.18.20152256
Low- and middle- income countries, children, malnutrition, Pakistan	19-Jul-20	Foreseeing a worsening of pediatric malnutrition following SARS-CoV-2 in low and middle-income countries such as Pakistan	Journal of Pediatric Nursing	Letter	During this pandemic, governments enforced lockdown restrictions to contain the spread of COVID-19. However, low- and middle- income countries (LMICs) such as Pakistan have a large majority of the population who are either daily wagers or depend on their weekly incomes to feed their families. Many families are now expected to be pushed towards starvation, rendering children more vulnerable to an already prevailing malnutrition. A study shows that approximately 66% of the children in Pakistan suffer from malnutrition, ranging from mild malnutrition to severe malnutrition. Children are at a higher risk during COVID-19 because of interruption to supply food services. Moreover, undernourished children tend to have a weaker immune system and hence, rendered more susceptible to the viral disease, with lesser chances of survival. UNICEF recommends promoting safe breastfeeding and providing complementary foods to children.	This article presents that child malnutrition in Pakistan is worsening during the pandemic and calls for efforts to prevent child wasting and ensure the healthy growth of children during this pandemic.	Sajid MI, Tariq J, Waheed AA, Dur-E-Najaf, Balouch SS, Abaidullah S. Foreseeing a worsening of pediatric malnutrition following SARS-CoV-2 in low and middle-income countries such as Pakistan [published online, 2020 Jul 19]. J Pediatr Nurs. 2020;S0882-5963(20)30499-1. doi:10.1016/j.pedn.2020.06.016
Guideline, neonatal ICU, newborn, Turkey	19-Jul-20	The Turkish Neonatal Society proposal for the management of COVID-19 in the neonatal intensive care unit	Turk Pediatri Arsivi	Review	Neonates are particularly susceptible to SARS-CoV-2. In the context of the COVID-19 pandemic, the Turkish Neonatal Society proposed this protocol with the evidence available at the time of preparation to handle neonates with SARS-CoV-2 infections and outbreaks in neonatal intensive care units (NICUs). This proposal presents recommendations on 1) COVID-19 in pregnancy, including delivery room management, neonatal transport, NICU management; 2) COVID-19 in the newborn, including breastfeeding 3) treatment; 4) discharge criteria; 5) procedures for handling bodies of deceased suspected or confirmed patients and autopsy. The authors believed this could be valuable for all countries.	This proposal from Turkey presents evidence-based recommendations for management and treatment of the neonatal cases during the COVID-19 pandemic.	Erdeve Ö, Çetinkaya M, Baş AY, et al. The Turkish Neonatal Society proposal for the management of COVID-19 in the neonatal intensive care unit. Turk Pediatri Ars. 2020;55(2):86-92. Published 2020 Jun 19. doi:10.14744/TurkPediatriArs.2020.43788
Pregnancy, neonate, breastfeeding, clinical	18-Jul-20	Maternal and perinatal outcomes and pharmacological	BMC Systematic Reviews	Protocol	The authors share a protocol for a systematic review seeking to summarize available literature on the following: clinical characteristics of COVID-19 in the maternal and perinatal populations, maternal and perinatal outcome measures being reported, and therapeutic interventions and safety of	The authors outline their protocol for a systematic review that will be the first to address therapeutic management and safety of	Thomas B, Pallivalapila A, El Kassem W, et al. Maternal and perinatal outcomes

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characteristics, management, pharmacological treatment		management of Covid-19 infection in pregnancy: a systematic review protocol			pharmacological therapies for COVID-19 during the antenatal, perinatal, and postnatal periods and during breastfeeding.	medicines to treat COVID-19 during pregnancy and breastfeeding.	and pharmacological management of Covid-19 infection in pregnancy: a systematic review protocol [published online 2020 Jul 18]. Syst Rev. 2020;9(1):161. doi:10.1186/s13643-020-01418-2
Maternal outcome, neonatal outcomes, obstetric outcomes, pregnancy, Turkey	18-Jul-20	A pandemic center's experience of managing pregnant women with COVID-19 infection in Turkey: A prospective cohort study [Free Access to Abstract only]	International Journal of Gynaecology and Obstetrics	Clinical Article	In order to evaluate the clinical course and effect of COVID-19 on pregnant women, the authors conducted a prospective cohort study in Turkey on pregnant women with confirmed or suspected SARS-CoV-2 infection who were admitted to the Ministry of Health Ankara City Hospital between March 11th and June 11th, 2020. Of 100 suspected pregnant women, 29 had confirmed SARS-CoV-2 infection. 8 of the remaining 71 cases had clinical findings highly suspicious for COVID-19. 10 (34.5%) of the confirmed cases had co-morbidities. Cough (58.6%) and myalgia (51.7%) were the leading symptoms. 25 (86.2%) cases had mild COVID-19 disease. COVID-19 therapy was given to 10 (34.5%) patients. There were no admissions to the ICU. Pregnancy complications were present in 7 (24.1%) patients. None of the neonates were positive for SARS-CoV-2. Samples of breastmilk were also negative for SARS-CoV-2. The authors stated that the clinical course of COVID 19 during pregnancy appears to be mild in the present study.	This prospective cohort study from Turkey on pregnant women with confirmed or suspected SARS-CoV-2 infection shows that the clinical course of COVID-19 during pregnancy appears to be mild.	Sahin D, Tanacan A, Erol SA, et al. A pandemic center's experience of managing pregnant women with COVID-19 infection in Turkey: A prospective cohort study [published online, 2020 Jul 18]. Int J Gynaecol Obstet. doi:10.1002/ijgo.13318
Vertical transmission, neonate, obstetric outcomes, breastfeeding	17-Jul-20	What are considerations for neonates at risk for COVID-19?	Clinical and Experimental Pediatrics	Editorial	The author summarizes recent data on potential transmission and risks of COVID-19 infection in neonates. SARS-CoV-2 transmission to neonates is thought to occur primarily through respiratory droplets during the postnatal period when neonates are exposed to mothers, caregivers, visitors, or healthcare personnel with COVID-19. A recent WHO report noted that, of 115 mother–infant pairs from 17 studies in which the mother had confirmed COVID-19, 13 infants had COVID-19. Of the 20 whose breastmilk was tested for SARS-CoV-2 RNA particles by RT-PCR, 18 were negative and 2 were positive; one mother's infant was not infected with COVID-19 (mix-fed), while the other was infected (feeding modality not reported). The CDC, WHO, and American Academy of Pediatrics suggest that the benefits of breastfeeding appear to outweigh the potential risks of viral transmission from mother to infant. Of 262 women who gave birth in another study, 66 (25%) did so preterm: 32 (48%) due to maternal COVID-19, 9 (14%) due to fetal compromise, and 12 (18%) due to other obstetric conditions. Three neonates were stillborn and two died in the neonatal period; neither of the neonatal deaths was attributed to SARS-CoV-2. Current evidence is inconclusive about transplacental viral transmission.	The author concludes that viral transmission of SARS-CoV-2 to neonates likely occurs after birth, and most professional societies report that the benefits of breastfeeding outweigh risks of transmission via breastmilk. Maternal infection may pose a risk to neonates due to the rates of preterm birth and fetal compromise.	Choi, Soo Han. What are considerations for neonates at risk for COVID-19? [published online 2020 July 17]. Clin Exp Pediatr. 2020 doi.org/10.3345/cep.2020.01074
Pregnancy, transmission, isolation,	13-Jul-20	Management of the first newborn delivered by a	Clinical and Experimental Pediatrics	Case Report	The authors report on the first case of an infant born to a mother with confirmed COVID-19 in South Korea and describe the diagnosis, process for delivery, and management of the newborn. The obstetrician performed a C-section delivery and all medical staff wore PPE including gown, gloves,	This case describes the management of the delivery of a newborn to a mother with COVID-19 in South Korea, in which there	Lee, E.K., Kim, W.D., Lee, D.W. and Lee, S.A., Management of the first newborn

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testing, South Korea		mother with COVID-19 in South Korea			medical mask, and face shields for eye and face protection. The obstetrician used a powered air purifying respirator for respiratory protection. Remaining inpatients were discharged or transferred to other hospitals and the patient was asked not to breast-feed or stay with her baby. After delivery the neonate was admitted to the NICU and isolated in a negative pressure isolation room. Neonatal specimens were collected of the upper respiratory tract (nasopharyngeal and oropharyngeal), gastric lavage fluid, blood, skin, urine, and stool on arrival to the NICU. The mother's placenta, cord blood, and amniotic fluid were also collected and all ten specimens were tested via RT-PCR and negative for SARS-CoV-2. Neonatal nasopharyngeal and oropharyngeal tests were repeated after 48 hrs and confirmed negative. The newborn was released from isolation but the mother remained isolated during her active infection.	was no evidence of intra-uterine transmission.	delivered by a mother with COVID-19 in South Korea. Clinical and experimental pediatrics. 2020.
Breastfeeding, food, hygiene, supplementation	12-Jul-20	Dietary Recommendations During the COVID-19 Pandemic	Nutrition Reviews	Review article	Optimal nutrition can improve well-being and might mitigate the risk and morbidity associated with COVID-19. This narrative review was carried out from December 2019 - April 2020, and 48 documents were retrieved. The goal was to review guidelines on what nutritional advice is being offered for individuals in quarantine during the COVID-19 pandemic. The majority of documents encouraged the consumption of fruits, vegetables, and whole-grain foods. 31% of the guidelines highlighted the importance of minerals and vitamins such as zinc and vitamins A, C, and D to maintain a well-functioning immune system. Dietary supplementation has not been linked to COVID-19 prevention. However, supplementation with vitamins C and D, as well as with zinc and selenium, was highlighted as potentially beneficial for individuals with, or at risk of, respiratory viral infections or for those in whom nutrient deficiency is detected. There was no convincing evidence that food or food packaging is associated with the transmission of COVID-19, but good hygiene practices for handling and preparing foods were recommended. 6 of 13 documents included in the review addressed breastfeeding and suggested no changes in recommendations, even in women diagnosed with COVID-19. The findings can be used to help dietitians and healthcare professionals better address dietary recommendations during the COVID-19 pandemic.	This review summarizes recent scientific literature and existing recommendations from national and international nutrition agencies on an optimal diet, vitamin and mineral supplementation, and good hygiene practices for food preparation during the COVID-19 pandemic.	de Faria Coelho-Ravagnani C, Corgosinho FC, Sanches FFZ, Prado CMM, Laviano A, Mota JF. Dietary recommendations during the COVID-19 pandemic [published online, 2020 Jul 12]. Nutr Rev. 2020;nuaa067. doi:10.1093/nutrit/nuaa067
Family-centered care, moral distress, nurse, Perinatal care, Spain	10-Jul-20	Neonatal nursing in the COVID-19 pandemic: can we improve the future?	Journal of Neonatal Nursing	Original Article	This article from Spain reviews changes to Neonatal Units (NUs) during the COVID-19 pandemic, and resulting impacts on staff and workflow, perinatal and neonatal care, and families. NUs traditionally practice evidence-based Family-Centered Care (FCC), which views parents and family as essential collaborators and caregivers in their child's care. COVID-19 visitor restrictions, which may include parents, fundamentally alters the FCC framework. COVID-19 policies in some hospitals have included separation of mothers and newborns, and restrictions on skin-to-skin contact and breastfeeding. The article further states that NU nurses are key to communication and collaboration with families. COVID-19 restrictions can limit effective parent-nurse interactions, and this can ultimately lead to decreased confidence and infant bonding for parents, and moral distress for nurses. The authors conclude with a list of Difficulties/Conflicts related to NU practices in the COVID-19 pandemic, as well as Potential Strategies and	This article reviews changes to Neonatal Units (NUs) during the COVID-19 pandemic, and resulting impacts on staff and workflow, perinatal and neonatal care, and families.	Montes MT, Herranz-Rubia N; NeNe Nursing Group. Neonatal nursing in the COVID-19 pandemic: can we improve the future? [published online ahead of print, 2020 Jul 10]. J Neonatal Nurs. 2020;10.1016/j.jnn.2020.07.005. doi:10.1016/j.jnn.2020.07.005

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					Solutions for each. For example, they suggest telematic communication for parent peer support, and expedited COVID-19 testing for NU parents. The authors are hopeful that neonatal nursing teams can learn lessons from these challenges, to improve future care.		
Vertical transmission, viral detection, immune response, milk, Italy	10-Jul-20	In–Utero Mother–To–Child SARS–CoV–2 Transmission: viral detection and fetal immune response	medRxiv	Preprint (not peer-reviewed)	In this prospective multicenter study, 31 SARS-CoV-2 positive pregnant women were enrolled from three hospitals of Lombardy, Italy between March 9 and April 14, 2020. Real-time PCR was performed to detect the virus and specific anti-SARS-CoV-2 antibodies on pregnant women and their fetuses. The authors reported for the first time that SARS-CoV-2 was found in the vagina mucosa of a pregnant woman, at-term placentae, the umbilical cord blood, and in one milk specimen. Furthermore, they reported the presence of specific anti-SARS-CoV-2 antibodies in the umbilical cord blood of pregnant women, as well as in milk specimens. Finally, they observed that a specific inflammatory response is triggered by SARS–CoV–2 infection in pregnant women at both systemic and placental levels and in umbilical cord blood plasma. The findings in the study supported the hypothesis that in–utero vertical transmission is possible in SARS–CoV–2 positive pregnant women.	This authors first reported that SARS-CoV-2 is found in the vagina mucosa of a pregnant woman, at-term placentae, the umbilical cord blood, and in one milk specimen. They also described the inflammatory response triggered by SARS-CoV-2 infection in pregnant women at both systemic and placental levels.	Fenizia C, Biasin M, Cetin I, et al. IN–UTERO MOTHER–TO–CHILD SARS–CoV–2 TRANSMISSION: viral detection and fetal immune response [published online 2020 Jul 10]. medRxiv. doi:10.1101/2020.07.09.20149591
Pregnancy, obstetric violence, human rights, mother-infant separation, breastfeeding, visitor restrictions	10-Jul-20	COVID-19 as a risk factor for obstetric violence	Sexual and Reproductive Health Matters	Commentary	The concept of obstetric violence has highlighted the commonly experienced issues of abuse and disrespect toward laboring women, and the authors express concern about the quality of maternity care, childbirth rights, and standards of care receding during the COVID-19 pandemic. They argue that some of the restrictions and interventions being implemented due to the COVID-19 outbreak are not necessary, not based on scientific evidence, are disrespecting human dignity and are not proportionate to achieve the objective of limiting the spread of the virus. These include unnecessary interventions done without medical indications (such as caesareans or instrumental deliveries), prohibition of companionship during labor, immediate separation and isolation from the newborn, and the prevention of breastfeeding. The authors describe the potential harms from each of these interventions and express fear that due to the COVID-19 pandemic there will be regression in the achievement of positive birth experiences for women, newborns and families around the world.	The authors describe concern that certain interventions being used during labor and delivery due to the COVID-19 pandemic are not evidence-based, will inflict harm on the mother and infant, and will cause a regression in women's human rights during childbirth.	Sadler M, Leiva G, Olza I. COVID-19 as a risk factor for obstetric violence [published online 2020 Jul 10]. Sex Reprod Health Matters. 2020. doi:10.1080/26410397.2020.1785379
Pregnancy, neonate, vertical transmission, Spain	10-Jul-20	Multi-center Spanish Study Found No Incidences of Viral Transmission in Infants Born to Mothers With COVID-19	Acta Paediatrica	Original Article	This multicenter descriptive study in Spain sought to describe the clinical features of mothers infected with COVID-19, examine any potential vertical mother to newborn transmission, and assess the efficacy of discharge recommendations in preventing transmission during the first month of the newborn's life. The study reviewed records from 16 Spanish hospitals of 42 pregnant women diagnosed with COVID-19 from March 13-29, 2020, in their 3rd trimester. They and their newborn infants were monitored until the infant was one month old. Over half (52.4%) of the women had a vaginal delivery. The initial clinical symptoms were coughing (66.6%) and fever (59.5%). One mother died due to thrombo-embolic events. 37 newborn infants were admitted to the neonatal unit (88%) and 28 were then admitted to intermediate care for organizational virus-related reasons. No infants died and no vertical transmission was detected during hospitalization or follow up. Only six were exclusively breastfed at discharge. There was no evidence	This study found no vertical transmission or transmission of COVID-19 from mother to infant in the first month of the infant's life. There was a low exclusive breastfeeding rate at discharge, thought to be due to the measures to avoid transmission.	Marín Gabriel MA, Cuadrado I, Álvarez Fernández B, et al. Multi-centre Spanish study found no incidences of viral transmission in infants born to mothers with COVID-19 [published online 2020 Jul 10]. Acta Paediatr. 2020;10.1111/apa.15474.

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					of COVID-19 transmission in any of the infants born to COVID-19 mothers, and the post-discharge advice seemed effective. The measures to avoid transmission appeared to reduce exclusive breastfeeding at discharge.		doi:10.1111/apa.15474
Breast milk, pasteurization, viral load, viral inactivation	10-Jul-20	The Impact of Thermal Pasteurization on Viral Load and Detectable Live Viruses in Human Milk and Other Matrices: A Rapid Review	Applied Physiology, Nutrition, and Metabolism	Review article	This study reviewed primary research articles to characterize the effect of common pasteurization techniques on viruses in human milk (HM) and non-HM matrices. 109 studies were included. Pasteurization of HM at a minimum temperature of 56ºC-60ºC is effective for reducing detectable live virus. In cell culture media or plasma, coronaviruses (e.g., SARS-CoV, SARS-CoV-2, MERS-CoV) are highly susceptible to heating at ≥56ºC. Although pasteurization parameters and matrices reported vary, all viruses studied, except parvoviruses, were susceptible to thermal killing. Future research important for the study of novel viruses should standardize pasteurization protocols and should test inactivation in HM. In all matrices, including HM, pasteurization at 62.5ºC was generally sufficient to reduce the surviving viral load by several logs or to below the limit of detection. Holder pasteurization of HM (heating to 62.5ºC for 30 min), the standard pasteurization procedure conducted at milk banks, should be sufficient to inactivate non-heat resistant viruses, including coronaviruses, if present.	According to the findings in this review, the standard pasteurization procedures used at milk banks for human milks may be sufficient to inactivate non-heat resistant viruses, including coronaviruses, whether present via vertical transmission or as a contaminant.	Pitino MA, O'Connor DL, McGeer AJ, Unger S. The impact of thermal pasteurization on viral load and detectable live viruses in human milk and other matrices: A rapid review [published online 2020 Jul 10]. Appl Physiol Nutr Metab. 2020. doi:10.1139/apnm-2020-0388
Breastfeeding, colostrum, hand expression	9-Jul-20	Negative Transmission of SARS-CoV-2 to Hand-Expressed Colostrum From SARS-CoV-2-Positive Mothers [Free Access to Abstract only] https://www.liebertpub.com/doi/abs/10.1089/bfm.2020.0183	Breastfeeding Medicine	Original Research	This is an observational prospective study that included pregnant women who tested positive for SARS-CoV-2 by PCR at time childbirth and who wanted to breastfeed their newborns. Colostrum samples were obtained from seven mothers by manual self-extraction in the first hours post-delivery. To collect the samples, the mothers wore surgical masks, washed their hands with an 85% alcohol-based gel, and washed their breast with gauze that was saturated with soap and water. SARS-CoV-2 was not detected in any of the colostrum samples obtained in our study. As breast milk was not a source of SARS-CoV-2 transmission in this study, hand expression (assuring that a mask is used and that appropriate hygienic measures are used for the hands and the breast), when direct breastfeeding is not possible, appears to be a safe way of feeding newborns of mothers with COVID-19.	In this study, colostrum was not found to contain SARS-CoV-2 following hand expression by COVID-positive mothers, contributing to the growing body of literature regarding the safety of feeding newborns of COVID-positive mothers with breast milk.	Marín Gabriel MÁ, Malalana Martínez AM, Marín Martínez ME, et al. Negative Transmission of SARS-CoV-2 to Hand-Expressed Colostrum from SARS-CoV-2-Positive Mothers [published online 2020 Jul 9]. Breastfeed Med. 2020. doi:10.1089/bfm.2020.0183
Breast milk, donor human milk, pasteurization, transmission	9-Jul-20	Holder Pasteurization of Donated Human Milk Is Effective in Inactivating SARS-CoV-2	Canadian Medical Association Journal (CMAJ)	Original Research	Pasteurized donor human milk is the standard of care for nutrition in very low birth weight infants in hospital. The aim of this study was to determine if Holder pasteurization (62.5°C for 30 min) would be sufficient to inactivate SARS-CoV-2 in donated human milk samples. Frozen milk samples from ten donors were inoculated with SARS-CoV-2 at 1 x 10^7 TCID50/mL (50% of the tissue culture infectivity dose per mL). The samples were then pasteurized using the Holder method or held at room temperature for 30 minutes (unpasteurized). Comparative controls of milk samples from the same donors without addition of the virus (pasteurized and unpasteurized) were used. Cytopathic activity was undetected in all pasteurized SARS-CoV-2 milk samples. In the unpasteurized SARS-CoV-2–spiked milk samples, the infectious viral titer was reduced by about 101. The authors concluded that pasteurization of human milk by the Holder method inactivates SARS-CoV-2. Thus, in the event that donated human milk contains SARS-CoV-2, this method renders milk safe for consumption and handling.	Holder pasteurization was sufficient to inactivate SARS-CoV-2 in ten donor human milk samples inoculated with a high titer of the virus. This is the first report of the effect of pasteurization on coronaviruses in human milk.	Unger S, Christie-Holmes N, Guvenc F, et al. Holder pasteurization of donated human milk is effective in inactivating SARS-CoV-2 [published online, 2020 Jul 9]. CMAJ. doi:10.1503/cmaj.201309

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Vertical transmission, pregnancy, Lausanne, Switzerland	8-Jul-20	Vertical Transmission and Materno-Fetal Outcomes in 13 Patients With COVID-19	Clinical Microbiology and Infection	Letter to the Editor	The authors performed a retrospective case series of all pregnant patients with SARS-CoV2 infection during pregnancy admitted to the University Hospital in Lausanne, Switzerland for delivery between April 1 to May 6, 2020. Thirteen patients with SARS-CoV-2 infection during pregnancy were identified (12 with positive nasopharyngeal PCR and 1 symptomatic with positive serology but 3 negative PCRs). None of the placenta, cord blood nor neonate nasopharyngeal swabs were positive for SARS-CoV-2. Maternal fecal samples were not tested in this series, although symptomatic patients, especially those with digestive symptoms, excrete the virus in their stool. Out of 13 patients, one patient had a critical course of COVID-19, and she required 8 days of mechanical ventilation. Regarding the neonates, rooming-in (85%) and breastfeeding (69%) were encouraged. The median age at discharge (3 days) and the rate of hospitalization (15%) indicate excellent neonatal outcomes.	The authors report no cases of vertical transmission and no detection of the presence of SARS-CoV2 in placental swabs.	Masmejan S, Pomar L, Favre G, et al. Vertical transmission and materno-fetal outcomes in 13 patients with COVID-19 [published online, 2020 Jul 8]. Clin Microbiol Infect. 2020;S1198-743X(20)30381-5. doi:10.1016/j.cmi.2020.06.035
Neonate, breastfeeding, vertical transmission, outcomes	7-Jul-20	COVID-19 in babies: Knowledge for neonatal care	Journal of Neonatal Nursing	Review Article	This review provides an overview of the current knowledge on COVID-19 and the implications for maternal and neonatal nursing care. The authors draw the following conclusions from the current literature: Children's lungs have less expression of the ACE-2 receptor, used by SARS-CoV-2 to enter host cells. This may be one reason why the infection affects children less severely. However caution should be taken with neonatal infection due to their less developed airways, higher metabolic demands, and immature immune systems. Conversely, their less developed immune systems may also protect against the cytokine storm associated with COVID-19 infection. There is little evidence to support vertical transmission of COVID-19, and there has been no evidence of presence of the virus in breastmilk of COVID-19 mothers. These mothers may continue to breastfeed using strict hand hygiene and droplet precautions. Overall, neonates have a mild course with favourable outcomes. The most recent research related to dexamethasone in reducing mortality needs to be extended to antenatal dexamethasone use in preterm labour and the potential positive impact on neonatal COVID-19 infection.	Overall, neonates have a generally mild course when infected with COVID-19 and have favorable outcomes. There is little evidence of vertical transmission, and breastfeeding by COVID-19 infected mothers should still be encouraged with appropriate hygeine. More data is needed on use of antenatal dexamethasone to improve neonatal outcomes.	Green J, Petty J, Bromley P, Walker K, Jones L. COVID-19 in babies: Knowledge for neonatal care [published 2020 Jul 7]. J Neonatal Nurs. 2020;. doi:10.1016/j.jnn.2020.06.005
Breast feeding, guidelines, neonate, vertical transmission	7-Jul-20	Breast Feeding in Suspected or Confirmed Cases of COVID 19-a New Perspective	Journal of Obstetrics & Gynecology of India	Review Article	Currently, there is no universal consensus on managing the issue of breastfeeding with rooming-in for neonates of women with suspected or confirmed COVID-19. The published literature continues to evolve with contradictory guidelines from various authorities across the world. In this review, the author analyzes the available evidence on breastfeeding in women with suspected or confirmed COVID-19. The article discusses the current data on vertical transmission and transmission through breast milk of SARS-CoV-2 as well as on neonatal COVID-19. The author concludes that the benefits of mother-neonate rooming-in and direct breastfeeding, including health benefits and financial implications, outweigh the risk in cases of suspected or confirmed SARS-COV-2 infection as of now. Yet future research with larger sample size is warranted to further understanding of vertical transmission, effects of the SARS-COV-2 on early pregnancy, and on transfer of antiviral antibodies through breast milk.	The author summarizes the available evidence on breastfeeding in cases of suspected or confirmed COVID-19 and recommends mother-neonate rooming-in with direct breastfeeding based on this review of the current literature.	Hethyshi R. Breast Feeding in Suspected or Confirmed Cases of COVID 19-a New Perspective. [published online, 2020 Jul 7]. J Obstet Gynaecol India. doi:10.1007/s13224-020-01336-2
Breastfeeding, nutrition, mother-infant	6-Jul-20	Setting Realistic Goals for Feeding Infants	Acta Paediatrica	Commentary	There is lack of sufficient data and consensus regarding mother-infant contact in the setting of mothers with suspected or confirmed COVID-19 infection, with different public health agencies and professional societies	The authors argue that a shared decision-making approach for breastfeeding should be used	Mosalli R, Paes B. Setting realistic goals for feeding infants

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
separation, shared decision making		When Their Mothers Have Suspected or Confirmed COVID-19			globally issuing varying recommendations, particularly around separating a mother and infant. Regardless of the approach taken to separation, full precautions should be adopted to avoid respiratory transmission of the virus from mother to infant. The authors describe options to be considered for feeding in a variety of scenarios and advocate for shared-decision making in all scenarios.	when mothers have suspected or confirmed COVID-19 infection, ensuring that parents fully understand current evidence, availability of breastfeeding support, and other relevant resources. In lower-resource settings, nutrition should be optimized in the best interest of both mother and child.	when their mothers have suspected or confirmed COVID-19 [published online 2020 Jul 6]. Acta Paediatr. 2020. doi:10.1111/apa.15459
Mental health. pregnancy, breastfeeding, Belgium	3-Jul-20	Mental Health Status of Pregnant and Breastfeeding Women During the COVID-19 Pandemic: A Call for Action	International Journal of Gynecology & Obstetrics	Brief Communication	Pregnancy and early parenthood are characterized by intense emotions and a high vulnerability to emotional problems. Pregnant and breastfeeding women now also have to face the COVID-19 pandemic. The authors argue that research aimed assessing the impact of COVID-19 on maternal-fetal outcomes should not neglect perinatal mental health. They conducted an online survey in Belgium to investigate maternal mental health status after a few weeks of lockdown (n=5866 women, 2421 pregnant and 3445 breastfeeding). They found that almost half of the surveyed women experienced depressive or anxious symptoms during the lockdown period. The prevalence of self-reported major depressive symptoms in pregnancy (25.3%) and post-partum (23.6%) were explicitly higher when compared to before the pandemic. The authors conclude that routine depression and anxiety screening should be considered in obstetrical settings during the COVID-19 pandemic.	Pregnant and breastfeeding women in Belgium have higher levels of depression and anxiety during the COVID-19 pandemic compared to before the current crisis. Obstetricians should be aware that the pandemic and associated isolation measures may place an additional burden on the emotional wellbeing of their patients.	Ceulemans M, Hompes T, Foulon V. Mental health status of pregnant and breastfeeding women during the COVID-19 pandemic: A call for action [published online, 2020 Jul 3]. Int J Gynaecol Obstet. doi:10.1002/ijgo.13295
Editorial, mode of delivery, pregnancy, COVID-19, cesarean section, vaginal birth	2-Jul-20	Evaluation of mode of delivery in pregnant women infected with COVID-19	European Journal of Midwifery	Editorial	This editorial evaluates the mode of delivery in pregnant women with COVID-19. In a recent systematic review of 108 pregnancies with COVID-19, 50 women were delivered, of which 44 gave birth by cesarean section, and only 6 women gave birth by vaginal delivery. Furthermore, cesarean section rates in women with COVID-19 were higher than in the general population. Guidelines from the World Health Organization, Royal College of Obstetricians and Gynecologists, and The Royal College of Midwives stated that the mode of delivery should not be influenced by SARS-CoV-2 infection unless the mother is hypoxic or in a severe respiratory state. Cesarean section is not a recommended method of childbirth in pregnant women with COVID-19. However, this was the mode of delivery in the majority of cases with fetal distress cited as the indication behind the clinical decision. There was no evidence of COVID-19 in the amniotic fluid, umbilical cord blood, neonatal throat swab, or breastmilk samples. Midwives have been recognized as advocates of natural birth for pregnant women. Midwifery-led models of care are associated with lower cesarean section rates and reduced needs for a range of medical interventions. These positive impacts are critical to prevent avoidable harm, and midwife-led care settings for birth should be continued during the COVID-19 pandemic.	This editorial evaluates the mode of delivery in pregnant women with COVID-19. Cesarean section was the mode of delivery in the majority of cases, with fetal distress cited as the indication behind the clinical decision. Guidelines from the World Health Organization, Royal College of Obstetricians and Gynecologists, and The Royal College of Midwives state that the mode of delivery should not be influenced by SARS-CoV-2 infection unless the mother is hypoxic or in a severe respiratory state.	Giaxi P, Maniatelli E, Vivilaki VG. Evaluation of mode of delivery in pregnant women infected with COVID-19. Eur J Midwifery. 2020;4:28. Published 2020 Jul 2. doi:10.18332/ejm/123888
Breast feeding, perinatal care, childbirth	1-Jul-20	The COVID-19 Pandemic: The Role of	The Journal of Perinatal Education	Original Article	Childbirth educators play a particularly important role in ensuring that families receive appropriate evidence-based information about human milk and breastfeeding as a lifesaving medical intervention. In the current COVID-	The authors emphasize the importance of childbirth educators	Spatz DL. The COVID-19 Pandemic: The Role of Childbirth Educators

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		Childbirth Educators in Promoting and Protecting Breastfeeding [Free Access to Abstract only]			19 pandemic, breastfeeding and the provision of human milk remains recommended by national and international organizations.	in recommending breastfeeding during the COVID-19 pandemic.	in Promoting and Protecting Breastfeeding. [published online, 2020 Jul 1]. J Perinat Educ. 2020;29(3):120-122. doi:10.1891/J-PE-D-20-00024
Pregnancy, neonate, vertical transmission, clinical characteristics, Seoul, South Korea	1-Jul-20	Clinical outcomes of 201 neonates born to mothers with COVID-19: a systematic review	European Review for Medical and Pharmacological Sciences	Review	This systematic literature review evaluated the clinical manifestations and outcomes of neonates born to women with COVID-19 infection during pregnancy. The review included 16 case series and 12 case reports describing a total of 223 pregnant women and 201 infants. 4 newborns born to mothers affected by COVID-19 had laboratory-confirmed SARS-CoV-2 infection within 48 hours after birth. RT-PCR tests of the breast milk, placenta, amniotic fluid, cord blood and maternal vaginal secretions were all negative for SARS-CoV-2 in the reported cases. Fetal death was reported in two cases, and 48 of 185 newborns (25.9%) were born prematurely. Infants born small for gestational age and low birth weight (<2,500 g) accounted for 8.3% and 15.6% of reported cases, respectively. Birth asphyxia and respiratory distress syndrome were observed in 1.8% and 6.4% of neonates, respectively. There was one neonatal death due to intractable gastric bleeding among the SARS-CoV-2-negative infants. Current evidence suggests that COVID-19 during pregnancy rarely affects fetal and neonatal mortality but can be associated with adverse neonatal morbidities. Vertical transmission has not been observed in the majority of the reported cases.	This review adds to the body of literature regarding clinical outcomes of neonates born to women with COVID-19 infection during pregnancy, finding that COVID-19 during pregnancy rarely affects neonatal mortality or manifests in vertical transmission but can be associated with adverse neonatal morbidities.	Yoon SH, Kang JM, Ahn JG. Clinical outcomes of 201 neonates born to mothers with COVID-19: a systematic review. Eur Rev Med Pharmacol Sci. 2020;24(14):7804-7815. doi:10.26355/eurrev_202007_22285
Pneumonia, pregnancy, preterm birth, vertical transmission	1-Jul-20	Coronavirus Disease 2019 in Pregnant Women: A Report Based on 116 Cases	American Journal of Obstetrics and Gynecology	Original Research	The authors sought to evaluate the clinical characteristics and outcomes of COVID-19 in pregnancy. They retrospectively reviewed the medical records for 116 pregnant women with COVID-19 who were admitted to 25 hospitals in China between 20 January- 24 March 2020. Eight cases (6.9%) experienced a severe pneumonia requiring ICU admission, but no maternal deaths occurred. One patient with severe pneumonia had a missed spontaneous abortion. Of 99 patients who delivered, 21 (21.2%) had preterm birth before 37 weeks, including six with preterm premature rupture of membranes. There was one case of severe neonatal asphyxia. Of 86 neonates tested for SARS-CoV-2, all had negative results. Paired amniotic fluid and cord blood samples from 10 neonates were used to test for SARS-CoV-2; all had negative results. The authors concluded that SARS-CoV-2 infection during pregnancy is not associated with an increased risk of spontaneous abortion and spontaneous preterm birth. They found no evidence of vertical transmission of SARS-CoV-2 when the infection occurs during the third trimester of pregnancy.	In this article, the authors present clinical and laboratory findings of the largest case series of pregnant women with clinically or laboratory-confirmed COVID-19 to date (n=116). They found no evidence of vertical transmission in neonates (n=86) and no evidence of SARS-CoV-2 in breast milk samples (n=12).	Yan J, Guo J, Fan C, et al. Coronavirus disease 2019 in pregnant women: a report based on 116 cases. [published online, 2020 Jul]. Am J Obstet Gynecol. doi:10.1016/j.ajog.2020.04.014
Breastfeeding, breast milk, transmission, neonatal infection, Turkey	1-Jul-20	Virolactia in an Asymptomatic Mother With COVID-19	Breastfeeding and Medicine	Case Report	A 20-year-old asymptomatic pregnant woman presented for delivery at 39-week gestation in Turkey and was tested for SARSCoV-2 by RT-PCR due to a recent exposure. She wore a surgical mask during normal vaginal delivery of a 2,980g male infant. Her test result was positive, so mother and newborn were separated immediately after delivery and both were transferred to another hospital. The mother and infant were cared for in separate clinical	In this report, the authors present a case of subclinical SARS-CoV2 infection in a mother and her infant after SARS-CoV-2 was detected in colostrum and breast milk. It remains unclear whether	Bastug A, Hanifehnezhad A, Tayman C, et al. Virolactia in an Asymptomatic Mother with COVID-19

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					units to avoid contact; the SARS-CoV-2 PCR test of a nasopharyngeal swab from the infant on admission was negative. Expressed breast milk was given to the infant by health care professionals under strict precautions (hand hygiene, face mask, etc.). After the first lactation, a breast milk sample tested positive for SARS-CoV-2. Feeding with expressed breast milk was discontinued and breast milk samples were tested for SARS-CoV2 for the next 2 consecutive days. Neonatal blood, stool, and nasopharyngeal samples were also obtained for testing and were all positive for SARS-CoV-2. Neither the mother nor infant exhibited any symptoms, required any intervention, and both were discharged five days after admission.	the infant's first SARS-CoV-2 RT-PCR test result was a false negative, consistent with congenital or peripartum infection, or whether the infant was subsequently infected through breast milk.	[published 2020 Jul 1]. Breastfeed Med. doi:10.1089/bfm.2020.0161
Breastfeeding, postpartum, maternal health, mental health, stigma, India	30-Jun-20	Why I Can't Breastfeed My New-born Baby? Psychosocial Dilemma of a COVID-Positive Post-LSCS Mother	Indian Journal of Palliative Care	Case Report	This case report describes a 26-year-old postpartum mother who tested positive for SARS-CoV-2 via RT-PCR and was admitted to a COVID isolation facility at a tertiary care center in India. Her infant was delivered prematurely at gestational age 28 weeks, tested negative for SARS-CoV-2, and was transferred to a neonatal ICU. The authors detail her physical, psychological, social, and spiritual concerns and each concern is elaborated with direct quotes from the mother. Her primary physical concern was suture site pain and concerns related to discarding expressed breast milk. Her psychological concerns included distrust of her COVID-19 test results (due to consecutive samples with conflicting results and absence of symptoms), separation from and inability to breastfeed her newborn, belief of unjust isolation, lack of family support, loneliness, fear, anxiety, anger, stress, and depression. Her social concerns centered around anticipated stigma towards herself and her newborn. She also expressed spiritual concerns because she was not able to create harmony between herself and environment. The authors recommend psychological interventions in the event of maternal-infant separation, sensitivity around stigmatizing language in written and verbal communications, and allowing asymptomatic mothers to breastfeed their infants under strict infection control measures.	This case report details the physical, psychological, social, and spiritual concerns of a 26-year old postpartum mother with asymptomatic SARS-CoV-2 infection who was separated from her newborn and admitted to an isolation facility in India. The authors recommend psychological intervention, use of destigmatizing language, and greater flexibility in allowing asymptomatic mothers to breastfeed their infants.	Kumar S, Rathore P, Shweta, et al. Why I Can't Breastfeed My New-born Baby? Psychosocial Dilemma of a COVID-Positive Post-LSCS Mother. Indian J Palliat Care. 2020 Jun;26(Suppl 1):S150-S152. doi: 10.4103/IJPC.IJPC_157_20. Epub 2020 Jun 30. PMID: 33088107; PMCID: PMC7534992.
Breastfeeding, human milk, breast milk, newborn, swab test	30-Jun-20	SARS-CoV-2 in Human Breast Milk and Neonatal Outcome: A Collaborative Study	The Lancet	Preprint (not peer reviewed)	Though identification of all potential infective vehicles for SARS-CoV-2 is important for disease prevention, possible transmission of SARS-CoV-2 via breastmilk remains largely unexplored. In this study, authors collected breastmilk from twelve SARS-CoV-2 positive mothers and analyzed samples for viral RNA using RT PCR. Eleven of the twelve samples were negative for viral RNA. Eleven of the twelve newborns were exclusively breastfed in the first month of life and closely monitored, and clinical outcome was uneventful. Four newborns tested positive for SARS-CoV-2 and were all detected in the first 48 hours of life after onset of maternal symptoms. The remaining eight infants were not positive and/or symptomatic in the first month of life. The clinical course of infected infants was uneventful, including the infant that received SARS-CoV-2 positive breastmilk. Study authors hypothesize that the SARS-CoV-2 positive breastmilk could be caused by viral shedding and/or lack of compliance to hygiene protocols. The authors conclude that SARS-CoV-2 positive mothers pose no additional risk to their infants by breastfeeding and that breastmilk, even when positive for SARS-CoV-2, is not a vehicle of infection; however, mothers must follow	The authors argue that SARS-CoV-2 positive mothers do not expose their newborns to an additional risk of infection by breastfeeding. They state that mothers should breastfeed, irrespective of swab test results, considering the immunological and anti-infective properties of mother's milk.	Bernito E, Moro GE, De Renzi G, et al. SARS-CoV-2 in Human Breast Milk and Neonatal Outcome: A Collaborative Study. The Lancet. Published 30 June 2020. doi: 10.2139/ssrn.3611974

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					strict hygiene protocols to minimize infants' risk of infection via other modes of transmission.		
Childbirth, pregnancy, postpartum, abortion care, Brazil	30-Jun-20	Childbirth, Puerperium and Abortion Care Protocol During the COVID-19 Pandemic	Revista da Associação Médica Brasileira	Review	This article provides a comprehensive review of clinical recommendations in Brazil regarding childbirth, postpartum, and abortion care during the COVID-19 pandemic for suspected and confirmed cases of maternal COVID-19. The authors review the risks and clinical characteristics of COVID-19 in pregnancy and provide recommendations for laboratory assessments, location and timing of delivery, visitors, labor induction, operative delivery, fetal assessment, anesthesia, intrauterine resuscitation, cord clamping, skin-to-skin, breastfeeding, and medications.	This review article provides clinical recommendations to Brazilian obstetricians regarding childbirth, postpartum and abortion care during the pandemic.	Trapani Júnior A, Vanhoni LR, Silveira SK, Marcolin AC. Childbirth, Puerperium and Abortion Care Protocol during the COVID-19 Pandemic. Rev Bras Ginecol Obstet. doi:10.1055/s-0040-1713587
Bonding, guidelines, separation, neonates	26-Jun-20	Promoting Attachment Between Parents and Neonates Despite the COVID-19 Pandemic	Acta Paediatrica	Clinical overview	Social distancing is the only option available during the COVID-19 pandemic until a vaccine is developed. However, this is having a major impact on human relationships and bonding between parents and neonates is a major concern. Separation during this health emergency could have lifelong consequences for offspring and there are even greater concerns if newborn infants are sick or vulnerable and need intensive care. The authors look at how bonding can be safely supported and maintained without risking infecting neonates, by comparing the international guidelines and proposing safe actions within those frameworks.	This paper examines the guidelines and clinical evidence and explores how transmission risks can be balanced with neonates' needs for early bonding and nutrition, including skin-to-skin contact and breastfeeding.	Tscherning C, Sizun J, Kuhn P. Promoting attachment between parents and neonates despite the COVID-19 pandemic [published online, 2020 Jun 26]. Acta Paediatr. doi:10.1111/apa.15455
Preeclampsia, emergency medicine, pregnancy, maternal health, neonatal outcomes, vertical transmission	25-Jun-20	COVID-19 and preeclampsia with severe features at 34-weeks gestation	The American Journal of Emergency Medicine	Case Report	One area of particular focus in the evolving COVID-19 pandemic is the effect that this illness may have on pregnancy and maternal-fetal disease. Existing evidence on the spectrum of coronaviruses in pregnancy shows increased rates of adverse outcomes associated with this group of infections. The authors report the case of a 31-year-old COVID-19 positive pregnant woman presenting to a US emergency department at 34 weeks' gestation with pre-eclampsia, 3 days of cough, and shortness of breath. Nasopharyngeal (NP) swab for COVID-19 resulted positive on hospital day 2. Due to her COVID-19 status and complicated course, contact between mother and infant was restricted to video conferencing and provision of breast milk for her neonate. Due to persistent hypertension and climbing liver enzymes (peak AST 225 U/L, ALT 288 IU/L), she underwent C-section for management of superimposed pre-eclampsia with severe features. Her postoperative course was complicated by endometritis treated with 7 days of antibiotics. Mother and infant were discharged on day 17 after 2 negative NP swabs (days 13 and 14). This case highlights the unique diagnostic and therapeutic challenges associated with treating patients with concomitant COVID-19 and pre-eclampsia.	This case of a 31-year-old COVID-19 positive pregnant woman in the US highlights the unique diagnostic and therapeutic challenges associated with treating patients with concomitant COVID-19 and pre-eclampsia.	Hansen JN, Hine J, Strout TD. COVID-19 and preeclampsia with severe features at 34-weeks gestation [published online ahead of print, 2020 Jun 25]. Am J Emerg Med. 2020;doi:10.1016/j.ajem.2020.06.052
Pregnancy, obstetric interventions, evidence-based medicine	25-Jun-20	Are Covid-19-positive Mothers Dangerous for Their Term and Well Newborn	Journal of Perinatal Medicine	Viewpoint	In this viewpoint article, the author calls for further evaluation of obstetric interventions with potential for overuse and unintended harm in the response to COVID-19, such as performance of C-sections. COVID-19 infection in pregnant women resembles infection in the non-pregnant adult population, with evidence of low probability for adverse maternal or perinatal outcomes and likely no vertical transmission from mother to fetus.	Obstetric interventions intended to save lives have the potential for overuse and unintended harm (e.g. C-sections, use of infant formula). Further evidence will help inform care regarding mode of delivery,	Stanojević M. Are Covid-19-positive mothers dangerous for their term and well newborn babies? Is there an answer?. J

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		Babies? Is There an Answer?			The most controversial procedures in the care of COVID-19-suspected or -positive asymptomatic women in labor are: mode of delivery, companion during birth and labor, cord clamping, skin-to-skin contact, breastfeeding, and visits during a hospital stay. Interventions should be evidence-based and optimize outcomes for mothers, babies and families.	presence of companion during birth and labor, cord clamping, skin-to-skin contact, and breastfeeding for pregnant women with COVID-19.	Perinat Med. 2020;48(5):441-445. doi:10.1515/jpm-2020-0186
Neonate, mother-newborn separation	23-Jun-20	Care of Newborns Born to Mothers With COVID-19 Infection; A Review of Existing Evidence	The Journal of Maternal-Fetal and Neonatal Medicine	Review article	The authors discuss how to care for a newborn of a mother with suspected or confirmed COVID-19 using existing evidence. As of 16 April 2020, the authors reviewed articles and guidelines related to COVID-19 in the reproductive health field, mother, and newborn health. The findings showed that the possibility of intra-uterine or perinatal transmission of COVID-19 is still questionable and ambiguous. However, close contact of mother and infant after birth can transmit the virus through droplets or micro-droplets. Based on these findings, it is recommended to separate the newborn from the mother with suspected or confirmed COVID-19 infection for at least 2 weeks. The mothers should be taught about breast milk expression skills, common breast problems, and principles of personal hygiene to protect the infant against COVID-19 infection.	The authors contend that based on information available as of 16 April 2020, mother-newborn separation is recommended for two weeks in the setting of suspected or confirmed maternal COVID-19 infection to prevent possible transmission to the newborn.	Shahbazi Sighaldeh S, Ebrahimi Kalan M. Care of newborns born to mothers with COVID-19 infection; a review of existing evidence [published online 2020 Jun 23]. J Matern Fetal Neonatal Med. 2020;1-13. doi:10.1080/14767058.2020.1777969
Breastfeeding, neonatal infection, mother-newborn separation	21-Jun-20	Breastmilk and COVID-19: What Do We Know?	Clinical Infectious Diseases	Commentary	The American Academy of Pediatrics (AAP) provided initial guidance that took the conservative stance of recommending that COVID-19 infected mothers be temporarily separated from their newborns immediately after delivery, and being fed expressed breast milk rather than directly breastfeeding during the period of high maternal infectivity. Nutritional and immunological benefits of breastfeeding are well established, with breastfeeding recommended by the AAP except in the case of a few infectious diseases. Initial reports did not detect SARS-CoV-2 in breastmilk; there are now case reports of the virus being found in breastmilk, but the question of contamination by respiratory secretions remains. With the currently available evidence, it is recommended that a mother who becomes infected with SARS-CoV-2 continue to breastfeed her infant, although the milk could be given by a non-infected caregiver if possible. Future studies are needed on presence of live virus in breastmilk, and on development of IgG or IgA antibodies against SARS-CoV-2.	Current evidence does not clearly demonstrate that SARS-CoV-2 can be transmitted through breastmilk. Until there is clear evidence the breast milk is a source of SARS-CoV-2 infection and that acquiring infection via breast milk harms the infant, the proven short-term and long-term benefits of breast milk feeding should be the primary consideration in parent counsel.	Kimberlin DW, Puopolo KM. Breastmilk and COVID-19: What Do We Know? [published online 2020 Jun 21]. Clin Infect Dis. doi:10.1093/cid/ciaa800
Breast milk, donor milk, pasteurized, cold storage	20-Jun-20	SARS-CoV-2 in human milk is inactivated by Holder pasteurization but not cold storage	medRxiv	Preprint (not peer reviewed)	As the COVID-19 pandemic evolves, human milk banks worldwide continue to provide donor human milk to vulnerable infants who lack access to the mother's milk. Under these circumstances, ensuring the safety of donor human milk is paramount, as the risk of vertical transmission of SARS-CoV-2 is not well understood. The authors investigate the inactivation of SARS-CoV-2 in human milk by pasteurization and the stability of SARS-CoV-2 in human milk under cold storage (freezing or refrigeration). Following heating to 63°C or 56°C for 30 minutes, SARS-CoV-2 replication competent (i.e. live) virus was undetected in both human milk and the control medium. Cold storage of SARS-CoV-2 in human milk (either at 4°C or - 30°C) did not significantly impact infectious viral load over 48 hours.	The findings demonstrate that SARS-CoV-2 can be effectively inactivated by Holder pasteurization and confirm that existing milk bank processes will effectively mitigate the risk of transmission of SARS-COV-2 to vulnerable infants through pasteurized donor human milk.	Walker GJ, Clifford V, Bansal V, et al. SARS-CoV-2 in human milk is inactivated by Holder pasteurization but not cold storage. medRxiv. doi: 10.1101/2020.06.18.20134395
Receptor expression, tissue susceptibility,	20-Jun-20	Female Reproductive Tract Has Low Concentration of	bioRxiv	Pre-print (not peer-reviewed)	SARS-CoV2 binds to the angiotensin-converting enzyme 2 (ACE2) receptor on host cells, and entry of the virus into the host cell is additionally mediated by the protease TMPRSS2. In the absence of TMPRSS2, SARS-CoV2 is known to use cathepsins CTSB and CTSL as an alternate for entry. The authors	The epithelia of female reproductive organs (uterus, myometrium, ovary, fallopian tube, breast) lack the co-location	Goad J, Rudolph J, Rajkovic A. Female reproductive tract has low concentration of

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ACE2, female reproductive organs, cathepsins		SARS-CoV2 Receptors [upload from link might take a long time (on 3 July 2020)]			analyzed single-cell sequencing datasets from uterine, ovarian, fallopian tube, and breast epithelial tissue to investigate the presence of ACE2/TMPRSS2 receptor expression. They did not detect significant expression of either ACE2 or TMPRSS2 in any of the female reproductive organs assessed. Furthermore, none of the cell types showed co-expression of ACE2 with proteases TMPRSS2, Cathepsin B (CTSB), and Cathepsin L (CTSL). These results suggest that myometrium, uterus, ovaries, fallopian tube, and breast are unlikely to be susceptible to infection by SARS-CoV2.	of the ACE2 receptor with proteases known to facilitate SARS-CoV-2 viral entry into host cells. They are therefore not likely susceptible to SARS-CoV-2 infection.	SARS-CoV2 receptors. Preprint. bioRxiv. 2020;2020.06.20.163097. Published 2020 Jun 22. doi:10.1101/2020.06.20.163097
Hyperinflammation, pregnancy, obstetrics, liver injury, breast milk, China	19-Jun-20	Characteristics of pregnant patients with COVID-19 and liver injury	Journal of Hepatology	Letter to the Editor	Although liver injury has been associated with COVID-19 in the general population, little attention has been paid to livery injury in pregnant women with COVID-19. The authors collected admissions data from 37 pregnant patients with COVID-19 (mean age 31.18 years); [no range provided] from Jan 28 - Feb 28, 2020 in Wuhan, China and assessed presence of liver injury and calculated synthetic inflammatory markers from the full blood count at admission. 11 (29.7%) patients had laboratory findings consistent with liver injury and 26 (70.3%) patients did not. Compared with those without liver injury, pregnant patients with liver injury had higher levels of procalcitonin (p=0.008), interleukin-6 (IL-6) (p=0.011), and lactic dehydrogenase (p=0.006). Samples of breast milk (n=6), neonatal throat swab (n=4) and neonatal anal swab (n=1) all tested negative for SARS-CoV-2 by RT-PCR. The observed prevalence of liver injury in this cohort (29.7%) is consistent with findings in similar cohorts of pregnant COVID-19 patients, but lower than reports in the general population (45.7%). The authors note that anti-inflammatory protections in the 2nd trimester of pregnancy might confer some protection against severe COVID-19; however, only 13.5% of patients in this cohort were in their 2nd trimester. Results indicate that pregnant patients with liver injury had worse inflammation than those without liver injury, and therefore liver function should be monitored in pregnant patients with COVID-19.	This retrospective study collected admissions data on pregnant women with COVID-19 in Wuhan, China and compared inflammatory markers in between patients with and without liver injury. Results indicate that pregnant patients with liver injury had worse inflammation than those without liver injury, and therefore liver function should be monitored in pregnant patients with COVID-19.	Deng G, Zeng F, Zhang L, Chen H, Chen X, Yin M. Characteristics of pregnant patients with COVID-19 and liver injury. J Hepatol. 2020 Oct;73(4):989-991. doi: 10.1016/j.jhep.2020.06.022. Epub 2020 Jun 20. PMID: 32569609; PMCID: PMC7305728.
Obstetric violence, delivery method, mother-newborn separation, breastfeeding	19-Jun-20	COVID-19 as a Risk Factor for Obstetric Violence	Sexual and Reproductive Health Matters	Commentary	This commentary expresses concern that COVID-19 related restrictions and interventions during labor, delivery and the immediate postpartum period may not be medically necessary and may instead constitute obstetric violence. Specific concerns are raised about interventions during labor without medical indication, such as Cesarean sections, mother-newborn separation following delivery, prohibition of companionship during labor, and prevention of breastfeeding. The commentary describes that these practices are at odds with WHO guidelines issued for COVID-19 management and can have long-term detrimental effects but have been undertaken in many countries and articulates that these disrespect the patient's dignity and deny women's rights during childbirth.	This commentary describes practices that have been undertaken during childbirth due to the COVID-19 pandemic and expresses concern that these practices are not evidence-based but rather represent obstetric violence in disrespecting women's rights during childbirth.	Sadler M, Leiva G, Olza I. COVID-19 as a risk factor for obstetric violence [published online 2020 Jun 19]. Sex Reprod Health Matters. 2020;1-4. doi:10.1080/26410397.2020.1785379
Breastfeeding, infant feeding, maternal mental health, lockdown, UK	19-Jun-20	The impact of the Covid-19 lockdown on the experiences and feeding practices of new mothers in the UK:	medRxiv	Preprint (not peer-reviewed)	The COVID-19 New Mum Study is recording maternal experiences and infant feeding during the period of UK lockdown via an anonymous online survey completed by women living in the UK aged ≥18 years with an infant ≤12 months of age. Between May 27 and June 3, 2020, the first week of the survey, 1365 women responded (94% white, 95% married/with partner). 1049 (77%) delivered before lockdown (BL) and 316 (23%) during lockdown (DL). Delivery mode, skin-to-skin contact and breastfeeding initiation did not	Lockdown has had an impact on maternal experiences, resulting in distress for many women as well as decreased feeding support. Survey participants are currently not representative of the population;	Vazquez-Vazquez A, Dib S, Rougeaux E, et al. The impact of the Covid-19 lockdown on the experiences and feeding practices of new mothers in the

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		Preliminary data from the COVID-19 New Mum Study			differ between groups. DL women had shorter hospital stays (p<0.001) and 39% reported changes to their birth plan. Reflecting younger infant age, 59% of DL infants were exclusively breast-fed or mixed fed versus 39% of BL (p<0.05). 13% reported a change in feeding, often related to lack of breastfeeding support, and 45% of DL women reported insufficient support with feeding. Among BL women, 57% and 69% reported decreased feeding support and childcare, respectively. 40% BL/45% DL women reported insufficient support with their own health, 8%/9% contacted a mental health professional and 11% reported their mental health was affected.	notably, groups at greater risk are under-represented.	UK: Preliminary data from the COVID-19 New Mum Study [published online 2020 Jun 19]. medRxiv. doi:10.1101/2020.06.17.20133868
Neonates, pregnancy	18-Jun-20	COVID-19 in Pregnant Women and Neonates: A Systematic Review of the Literature With Quality Assessment of the Studies	Pathogens	Review article	This review includes 37 studies from MEDLINE and EMBASE databases, involving 275 pregnant women with COVID-19 and 248 neonates. The majority of pregnant women presented with mild to moderate symptoms, only 10 were admitted in the ICU, and one died. Two stillbirths were reported and the incidence of prematurity was 28%. 16 neonates were tested positive for SARS-CoV-2 by RT-PCR, and 9 of them were born from mothers infected during pregnancy. Neonatal outcomes were generally favorable, although neonates at risk should be closely monitored. RT-PCR for SARS-CoV-2 yielded negative results on amniotic fluid, vaginal/cervical fluids, placenta tissue, and breast milk samples. SARS-CoV-2 infection in pregnant women appeared associated with mild or moderate disease in most cases, with a low morbidity and mortality rate.	Pregnant women with COVID-19 mostly presented with mild or moderate symptoms. The outcome of neonates born from infected mothers appeared mostly favorable.	Trippella G, Ciarcià M, Ferrari M, et al. COVID-19 in Pregnant Women and Neonates: A Systematic Review of the Literature with Quality Assessment of the Studies. Pathogens. Published 2020 Jun 18. doi:10.3390/pathogens9060485
Antibodies, Maternal, Breastmilk	18-Jun-20	Antibodies in the Breast Milk of a Maternal Woman With COVID-19	Emerging Microbes & Infections	Letter	A 33-year-old primiparous woman (38 weeks 2 days of gestation with irregular lower abdominal pain with vaginal fluid for 6 hours) with cough and chest tightness was admitted to hospital for childbirth on February 26, 2020. Throat swabs tested positive for SARS-CoV-2 at admission, but there was neither antiviral nor antibiotic treatment for the patient due to the pregnancy. After delivery, the woman was positive for SARS-CoV-2 tested in throat swabs but tested negative in other body fluids, and she had IgG and IgA detected in breast milk. The neonate had a negative result for SARS-CoV-2 RNA at the birth and her IgG antibody to SARS-CoV-2 was observed only within one and a half month after birth, indicating the placenta transmission of COVID antibody.	Breastmilk was found negative for SARS-CoV-2. The IgG and IgA antibodies were detected in breast milk, indicating that breastfeeding might have the potential benefit to the neonates.	Dong Y, Chi X, Huang H, et al. Antibodies in the breast milk of a maternal woman with COVID-19. Emerging Microbes & Infections [published online 2020 Jun 18]. doi: 10.1080/22221751.2020.1780952
Infant, cardiac involvement, myocardial enzymes, inflammation, Italy	18-Jun-20	COVID-19 Cardiac Involvement in a 38-day Old Infant	Pediatric Pulmonology	Case Report	A full-term, formula-fed 38-day-old male presenting with fever, rhinitis, and modest hypo-reactivity was admitted on March 27, 2020. Nasal and pharyngeal swabs tested positive for SARS-CoV-2. An increase in troponin T was observed, as well as a slightly elevated creatine kinase-MB. D-dimer was found to be increased in two consecutive measurements, with subsequent spontaneous resolution. The infant developed mild cardiovascular inflammation, a novelty for patients of very young age, with evidence of pericardial effusion on imaging. Hospital stay was unremarkable; no oxygen or antiviral therapy was administered. After 14 days, the infant was discharged and tested negative for SARS-CoV-2.	This case report contributes to literature on cardiac involvement in children with SARS-CoV-2 infection; comprehensive clinical, laboratory, and imaging characterization is provided.	Del Barba P, Canarutto D, Sala E, et al. COVID-19 cardiac involvement in a 38-day old infant [published online 2020 Jun 18]. Pediatr Pulmonol. doi:10.1002/ppul.24895
SARS-Co-V-2, breast milk, pasteurization, infant,	17-Jun-20	Holder Pasteurization Inactivates SARS-	bioRxiv	Pre-print (not peer-reviewed)	The authors state that previous studies have detected SARS-CoV-2 in breast milk. Subsequent infant infection in some cases have raised concerns about whether SARS-CoV-2 is transmissible via this route. Authors spiked 5 different SARS-CoV-2 isolates from Germany, France, and the Netherlands	The authors state that SARS-CoV-2 RNA has been detected in the breast milk of infected mothers, raising concerns regarding the	Conzelmann C, Groß R, Meister TL, et al. Holder Pasteurization Inactivates SARS-CoV-

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Germany, France, Netherlands		CoV-2 in Human Breast Milk			into 5 breast milk samples from healthy donors [age range not specified]. Infectivity was assessed by serial dilution of virus and inoculation of simian epithelial (Vero E6) or human adeno-carcinoma (Caco-2) cells. Cells were monitored for 3-6 days for visible changes and the tissue culture infectious dose 50% endpoint was calculated. After incubation of milk for 30 minutes at room temperature, all 5 samples remained infectious. After incubation of milk for 30 minutes at 63 degrees Celsius, no residual infectivity was detected. Thus, independent of the viral strain or breast milk sample, viral infectivity was eliminated by pasteurization. Authors present this as a safe and feasible method for mothers with SARS-CoV-2 to continue breastfeeding their infants.	safety of breastfeeding upon infection. In this study, pasteurization of breast milk inactivated SARS-CoV-2, thus providing an alternative and safe option for infected mothers to continue feeding breast milk to their infants.	2 in Human Breast Milk. biorxiv. June 2020. doi:https://doi.org/10.1101/2020.06.17.155689.
Breastmilk, neonatal care, neonates, donor breastmilk, Paris, France,	17-Jun-20	A Call to Ensure Access to Human Milk for Vulnerable Infants During the COVID-19 Epidemic	Journal of Human Lactation	Letter	Declining human milk supplies in neonatal care units have become a concern worldwide. Several arguments support the use of donor milk during the COVID-19 epidemic. WHO does not consider human milk to be a transmission vehicle for COVID-19, direct breastfeeding is still recommended, and Holder pasteurization (62.5°C for 30 min) is effective for preventing any SARS-CoV-2 contamination. In response to a 30-50% reduction in breastmilk donations as a result from France's COVID-19 outbreak, the authors enacted a successful campaign across Paris to train donation collectors, loosen restriction criteria for donors, and spread awareness of the safety of donated breastmilk. In the final week of the campaign, breastmilk donations were double those of the same week in 2019.	In light of evidence of the safety of donated breastmilk and dwindling donations, the authors enacted a successful public awareness campaign in Paris, France.	Rigourd V, Lapillonne A. A Call to Ensure Access to Human Milk for Vulnerable Infants During the COVID-19 Epidemic [published online, 2020 Jun 17]. J Hum Lact. 2020; 0890334420938036. doi:10.1177/0890334420938036
Breastmilk, breast feeding, lactoferrin, infant, neonate, viral entry, immunomodulatory effects	17-Jun-20	Lactoferrin Is an Important Factor When Breastfeeding and COVID-19 Are Considered	Acta Paediatrica	Brief Report	Breast milk, particularly lactoferrin, demonstrates potential antiviral effects. Lactoferrin can prevent viral infections by interacting with heparin sulphate glycosaminoglycan (HSPG) cell receptors, which allow the first anchoring site on the cell surface in the first phase of coronavirus infections. Lactoferrin has previously been shown to interfere with how SARS-CoV enters human cultured cells by competitively localizing to the virus anchoring sites provided by HSPGs, preventing the preliminary contact between the SARS-CoV and entry receptors, namely ACE2. This receptor is also used by SARS-CoV-2. In addition, lactoferrin promotes the growth of gut microbiota and the proliferation of enterocytes with direct anti-inflammatory and immunomodulatory actions. Although not tested in SARS-CoV-2, these mechanisms have affected other coronaviruses. Further clinical evidence is needed to demonstrate how early breastfeeding and the specific role of lactoferrin provides vital prevention during viral epidemics.	This report highlights mechanisms for antiviral properties of lactoferrin in breast milk that have been demonstrated in SARS-CoV and speculates that similar mechanisms may be important in SARS-CoV-2. It calls for further clinical evidence.	Peroni DG, Fanos V. Lactoferrin is an important factor when breastfeeding and COVID-19 are considered. 2020 Jun 17. Acta Paediatr. doi:10.1111/apa.15417
Breast milk, breastfeeding, validated assay, culture, viral RNA vs. replication-competent virus	16-Jun-20	Evaluation of SARS-CoV-2 in Breastmilk from 18 Infected Women	medRxiv	Preprint (not peer reviewed)	Between March 27 and May 6, 2020, 64 serial breastmilk samples from 18 SARS-CoV-2-infected women residing in the U.S. were collected before and after women had a positive RT-PCR test; all but one woman had symptomatic disease. One sample had detectable SARS-CoV-2 RNA by RT-PCR assay, which was validated by spiking breastmilk from uninfected women with known amounts of viral RNA. The positive sample was collected on the day of symptom onset but one sample 2 days prior to symptom onset and two subsequent samples, collected 12 and 41 days later, tested negative for viral RNA. In addition, a subset of 26 breastmilk samples from nine women were tested for the presence of replication-competent virus using	Findings from this analysis of breast milk samples using validated assays suggest that SARS-CoV-2 RNA does not represent replication-competent virus, and breast milk is an unlikely source of infection.	Chambers CD, Krogstad P, Bertrand K, et al. Evaluation of SARS-CoV-2 in Breastmilk from 18 Infected Women [published online 2020 Jun 16]. medRxiv. doi:10.1101/2020.06.12.20127944

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					the authors' established culture methods; all were negative including the one sample that tested positive for viral RNA by RT-PCR. This suggests that SARS-CoV-2 RNA does not represent replication-competent virus and that breastmilk itself is likely not a source of infection for the infant. Furthermore, when control breastmilk samples spiked with replication-competent SARS-CoV-2 virus were treated by Holder pasteurization, a process commonly performed by donor milk banks, no replication-competent virus nor viral RNA was detectable. Further research to confirm these findings is needed, as well as an examination of convalescent milk for the presence of antibodies against SARS-CoV-2.		
Antimicrobial peptides, treatment	16-Jun-20	The Potential of Antimicrobial Peptides as an Antiviral Therapy against COVID-19	ACS Pharmacology and Translational Science	Viewpoint	COVID-19 is currently considered as a life-threatening pandemic viral infection. Finding an antiviral drug or a vaccine is the only route for humans' survival against it. To date, no specific antiviral treatment has been confirmed. Antimicrobial peptides (AMPs) have been widely regarded as a promising solution to combat harmful microorganisms. They are biologically active molecules produced by different organisms as an essential component of their innate immune response against invading pathogens. Lactoferrin (LF), one of the AMPs, is an iron-binding glycoprotein that is present in several mucosal secretions. The antiviral activity of LF exists against a wide range of human and animal viruses (DNA and RNA). LF was proven to increase host immunity against viral infection. Since LF is one of the constituents of breast milk and significantly located at the mucosal layers of the human body, it is considered the first line of defense against microbial infection. LF was reported to have antiviral activity against SARS-CoV infection. The significant antiviral activity of LF makes it a potential option as an immunity enhancer, a drug or a drug conjugate with conventional antivirals. The affordability, environmental safety, and efficiency of LFs will make them superior to all other control strategies.	Given the severity of the COVID-19 pandemic, and the nature of viral infections, the authors suggest that finding an antiviral drug or vaccine is crucial. They specifically mention lactoferrin (present in breast milk), an antimicrobial peptide, as a candidate for such a drug.	Elnagdy S, AlKhazindar M. The Potential of Antimicrobial Peptides as an Antiviral Therapy against COVID-19. ACS Pharmacol Transl Sci. 2020;3(4):780-782. Published 2020 Jun 16. doi:10.1021/acsptsci.0c00059
Neonates, vertical transmission, breastfeeding, skin-to-skin contact	16-Jun-20	Appropriate Care for Neonates Born to Mothers With COVID-19 Disease	Acta Paediatrica	Clinical Overview	There is currently insufficient evidence to suggest vertical transmission between mothers and their newborn infants. However, transmission can occur after birth from mothers or other caregivers. Based on the currently available data, prolonged skin-to-skin contact and early and exclusive breastfeeding remain the best strategies to reduce the risks of morbidity and mortality for both mothers with COVID-19 and their newborns.	Given limited evidence to suggest the possibility of SARS-CoV-2 vertical transmission, breastfeeding and skin-to-skin contact are recommended to preserve benefits for neonates born to mothers with COVID-19.	Thi Tran H, Thi Kim Nguyen P, Thi Li H, et al. Appropriate care for neonates born to mothers with COVID-19 disease [published online 2020 Jun 16]. Acta Paediatr. doi:10.1111/apa.15413
Neonate, breastfeeding, breastmilk extraction	15-Jun-20	Guidance on Breastfeeding During the Covid-19 Pandemic	Revista da Associação Médica Brasileira	Review article	The authors performed a review of the recent medical literature on breastfeeding mothers with suspected or confirmed COVID-19, focusing on the neonatal period. 20 recent publications on breastfeeding, COVID-19, and assessment of possible transmission of SARS-CoV-2 through breastmilk were analyzed. The review summarizes possible options for breastfeeding and their consequences for the mother and the child, including initiation of breastfeeding, feeding by extraction of breastmilk, and not feeding the infant by breastmilk. With current knowledge, all maternal decisions in relation to breastfeeding are justifiable. However, puerperal women and	The authors conclude that with the currently available information, any decision regarding breastfeeding in the setting of maternal suspected or confirmed COVID-19 infection is justifiable, and advocate for patient education equipping mothers and their	Calil VMLT, Krebs VLJ, Carvalho WB. Guidance on breastfeeding during the Covid-19 pandemic. Rev Assoc Med Bras (1992). 2020;66(4):541-546.

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					their families must be very well informed to make a conscious choice based on the information available in the literature so far.	families to make an informed decision.	doi:10.1590/1806-9282.66.4.541
Neonates, NICU, management protocol, international guidelines	15-Jun-20	International Comparison of Guidelines for Managing Neonates at the Early Phase of the SARS-CoV-2 Pandemic	Pediatric Research	Clinical Research Article	Care providers from neonatal intensive care units (NICUs) in 20 countries, across six continents, exchanged and compared protocols on the management of neonates born to SARS-CoV-2-positive mothers. Disease burden varied between countries at the time of analysis. In most countries, asymptomatic infants were allowed to stay with the mother and breastfeed with hygiene precautions. There were discrepancies between national guidance in particular regarding triaging, use of personal protection equipment, viral testing, and visitor policies. Local protocols deviated from national guidance. Compliance between collaborators to share and discuss protocols was excellent and may lead to more consensus on management, but future guidance should be built on high-level evidence, rather than expert consensus.	This article presents a detailed review of ad hoc guidelines for neonates developed by various care providers in different countries at the start of the COVID-19 pandemic; similarities and differences are highlighted.	Lavizzari A, Klingenberg C, Profit J, et al. International comparison of guidelines for managing neonates at the early phase of the SARS-CoV-2 pandemic [published online 2020 Jun 15]. Pediatr Res. doi:10.1038/s41390-020-0976-5
Vertical transmission, breastfeeding, viral carriage, pregnancy, neonates	13-Jun-20	Covid-19 in pregnant women and babies: What pediatricians need to know	Paediatric Respiratory Reviews	Review	The aim of this review is to describe the current information available at the time of writing regarding the potential and known effects of SARS-CoV-2 in pregnant women, their fetuses, and their newborns, to help inform neonatologists who might be called upon to counsel expectant mothers and to care for their infants. Findings showed that 1) while aspects of pregnancy could put pregnant women at higher risk, preliminary epidemiological information does not support this; 2) viral carriage prevalence based on universal screening showed that rates varied from 3% to 13%; 3) vertical transmission risks were unknown but 3.1% of 311 infants born to mothers with SARS-CoV-2 were positive within a week of birth; 4) the clinical description of 26 neonates <30 days showed no deaths and only one required intensive care. Risks for breastfeeding and for milk banks were also discussed.	The authors summarize the literature on the potential and known effects of SARS-CoV-2 in pregnant women, their fetuses, and their newborns.	Rozycki HJ, Kotecha S. Covid-19 in pregnant women and babies: What pediatricians need to know [published online, 2020 Jun 13]. Paediatr Respir Rev. 2020;S1526-0542(20)30091-9. doi:10.1016/j.prrv.2020.06.006
Neonates, postnatal infection, vertical transmission, breastfeeding	13-Jun-20	Challenges in Neonatal COVID-19 Infection	The Indian Journal of Pediatrics	Editorial Commentary	In children, COVID-19 seems to have less severe clinical symptoms, but the potential harm remains largely unknown in neonates. It is possible that the immune systems of children are less developed, and this may reduce the risk of cytokine storm. Routine immunization and reduced distribution of ACE2 in children may also give some protection against COVID-19. At present, studies illustrate the possibility of postnatal neonatal infection with no evidence of transplacental transmission. Breastfeeding is possible in suspected or confirmed SARS-CoV-2 positive mothers, with proper hand and breast hygiene. Since most neonates are seemingly infected postnatally, health care workers must wear personal protective equipment at all times and avoid close contact.	To date, most studies point to the possibility of postnatal SARS-CoV-2 infection of neonates rather than transplacental transmission.	Bhat BV, Ravikumar S. Challenges in Neonatal COVID-19 Infection [published online 2020 Jun 13]. Indian J Pediatr. doi:10.1007/s12098-020-03379-9
Infant, clinical characteristics, breastfeeding, Iran	12-Jun-20	A 6 Months Old Infant With Fever, Dyspnea and Poor Feeding, Diagnosed With COVID-19	Travel Medicine and Infectious Disease	Case Report	On March 6, 2020, a 6-month-old male infant was admitted to a hospital in Tehran, Iran for dyspnea (without cough), poor feeding for 3 days, low grade fever, and increased heart rate and respiratory rate. Prior to becoming symptomatic, the child had been delivered premature and remained under observation in the NICU following birth by emergency cesarean section; he was normally breastfed. The most significant laboratory findings were lymphopenia and increased C-reactive protein. Chest X-ray showed ill-defined ground-glass opacities in both lungs. RT-PCR assay confirmed SARS-CoV-2 infection in both the infant and his asymptomatic mother. Following	This is the first case of COVID-19 in an infant, diagnosed in Iran.	Jafari R, Cegolon L, Torkaman M, et al. A 6 months old infant with fever, dyspnea and poor feeding, diagnosed with COVID-19 [published online 2020 Jun 12]. Travel Med Infect Dis.

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					oxygen, fluids, electrolyte supplements and treatment with oseltamivir, the infant's condition progressively improved and began to tolerate breastfeeding. Formula feeding was added because breastfeeding was insufficient.		doi:10.1016/j.tmaid.2020.101789
Pregnancy, clinical protocol, maternal-fetal management, childbirth	12-Jun-20	Coronavirus Disease 2019 in Pregnancy: A Clinical Management Protocol and Considerations for Practice	Fetal Diagnosis and Therapy	Review	In this review, the authors present an evidence-based protocol for the management of COVID-19 in pregnancy. They briefly contemplate all relevant aspects that a specialist in obstetrics and maternal medicine should know, ranging from basic concepts about the disease and protection measures in the obstetric setting to more specific aspects related to maternal-fetal management and childbirth. Both rooming-in and breastfeeding are acceptable under appropriate preventive measures.	A concise, evidence-based protocol for the clinical management of pregnant women with suspected or confirmed COVID-19 and their newborns is outlined.	López M, Gonce A, Meler E, et al. Coronavirus Disease 2019 in Pregnancy: A Clinical Management Protocol and Considerations for Practice [published online 2020 Jun 12]. Fetal Diagn Ther. doi:10.1159/000508487
Neonatal infection, breastfeeding, mother-newborn separation, vertical transmission, systematic review	12-Jun-20	Maternal Transmission of SARS-COV-2 to the Neonate, and Possible Routes for Such Transmission: A Systematic Review and Critical Analysis	BJOG: An International Journal of Obstetrics & Gynecology	Systematic Review	In this review, 49 studies included information on mode of delivery and neonatal infection status (n=666 neonates and 655 women). 28/666 (4%) neonates had confirmed COVID-19 infection postnatally. Of the 291 women who delivered vaginally, 8/292 (2.7%) neonates were positive. Of the 364 women who had a Caesarean birth, 20/374 (5.3%) neonates were positive. Of the 28 neonates with confirmed COVID-19 infection, 7 were breastfed, 3 formula fed, 1 was given expressed breast milk; in 17 neonates the method of infant feeding was not reported.	Neonatal COVID-19 infection is uncommon, rarely symptomatic, and the rate of infection is no greater when the baby is born vaginally, breastfed or allowed contact with the mother.	Walker KF, O'Donoghue K, Grace N, et al. Maternal transmission of SARS-COV-2 to the neonate, and possible routes for such transmission: A systematic review and critical analysis [published online 2020 Jun 12]. BJOG. doi:10.1111/1471-0528.16362
Pregnancy, neonatal infection, vertical transmission, diagnostic strategy, placental barrier	12-Jun-20	Mechanisms and Evidence of Vertical Transmission of Infections in Pregnancy Including SARS-CoV-2	Prenatal Diagnosis	Review Article	Despite reports of neonatal COVID-19, SARS-CoV-2 has not been consistently isolated in perinatal samples thus, definitive proof of transplacental infection is still lacking. Forty studies of COVID-19 pregnancies, reviewed here, suggest a lack of consensus on diagnostic strategy for congenital infection. While RT-PCR of neonatal swabs was universally performed, a wide range of clinical samples was screened including vaginal secretions (22.5%), amniotic fluid (35%), breast milk (22.5%) and umbilical cord blood. Neonatal COVID-19 was reported in eight studies, two of which were based on the detection of SARS-CoV-2 IgM in neonatal blood. Histological examination demonstrated sparse viral particles, vascular malperfusion and inflammation in the placenta from pregnant women with COVID-19. The paucity of placental co-expression of ACE-2 and TMPRSS2, two receptors involved in cytoplasmic entry of SARS-CoV-2, may explain its relative insensitivity to transplacental infection. Viral interactions may utilize membrane receptors other than ACE-2 thus, tissue susceptibility may be broader than currently known.	The authors assessed investigative tools used to confirm maternal-fetal SARS-CoV-2 infection in various studies and discussed known protective mechanisms of the placental barrier that prevent transplacental pathogen migration.	Mahyuddin AP, Kanneganti A, Wong J, et al. Mechanisms and evidence of vertical transmission of infections in pregnancy including SARS-CoV-2 [published online 2020 Jun 12]. Prenat Diagn. doi:10.1002/pd.5765

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Neonates, vertical transmission, clinical management, breastfeeding, China	10-Jun-20	What Can We Learn From Neonates With COVID-19?	World Journal of Pediatrics	Viewpoint	Based on six reported cases of neonatal SARS-CoV-2 infection, this article summarizes potential routes of vertical transmission, clinical characteristics and management of neonates with COVID-19, as well as management of neonates born to mothers with COVID-19. In China, it is recommended that all neonates born to COVID-19 positive mothers are fed with formula milk initially until the mother has two consecutive negative tests for SARS-CoV-2 and is isolated for 14 days. Meanwhile, the isolated mother is encouraged to keep pumping to maintain breastmilk. Delayed cord clamping and mother-newborn contact in the delivery room as also not recommended in China.	The authors provide recommendations for the management of neonates with COVID-19 or born to mothers with COVID-19, based on experience from China.	Xiao TT, Yan K, Wang LS, Zhou WH. What can we learn from neonates with COVID-19? [published online 2020 Jun 10]. World J Pediatr. doi:10.1007/s12519-020-00376-y
Pregnancy, lactation, research ethics, remdesivir, compassionate use	9-Jun-20	Protect Pregnant and Lactating Women With COVID-19 Through Research, Not From Research	Breastfeeding Medicine	President's Corner (Letter)	As the COVID-19 pandemic continue, more women are giving birth with a SARS-CoV-2 infection. While remdesivir is emerging as a promising therapy for severe disease, there is no data regarding presence of the drug in breast milk. Before the FDA's emergency use authorization, remdesivir was available for compassionate use for pregnant women; however, they were forbidden from breastfeeding. Additionally, breastfeeding individuals were excluded from clinical COVID-19 trials of remdesivir. This information deficit leads to a dilemma for both clinicians and mothers when considering treatment with the drug. The association between artificial feeding and an increased risk of infant hospitalization for severe pneumonia must be weighed against the theoretical risk of remdesivir exposure. The author points out that this type of challenge is the result of the longstanding policy of excluding pregnant and lactating individuals from clinical trials. Pregnant and lactating women deserve evidence-based treatment for medical conditions.	Due to exclusion of breastfeeding individuals in remedesivir's clinical trials, the drug's presence in breastmilk is unknown. This presents ethical dilemma for both pregnant women with COVID-19 and clinicians when considering breastfeeding and treatment.	Stuebe A. Protect Pregnant and Lactating Women with COVID-19 Through Research, Not from Research. [published online, 2020 Jun 9]. Breastfeed Med. doi:10.1089/bfm.2020.29155.ams
Breastfeeding, essential newborn care, newborn health outcomes, skin-to-skin contact	9-Jun-20	Appropriate care for neonates born to mothers with COVID-19 disease	Acta Paediatrica	Clinical Review	In this article, the authors describe the rationale for the maintenance of routine newborn care for babies born to mothers with COVID-19 based on currently available data. There is a lack of evidence on mother-to-infant vertical transmission of SARS-CoV-2, which can complicate decisions to modify early essential newborn care practices. Case study findings suggest relatively few infants born to mothers with COVID-19 get infected during birth, which is evidenced by the lack of viral presence in umbilical cord blood or amniotic fluid. Additionally, there is no evidence of SARS-CoV-2 in breastmilk. The authors suggest that modified practices of early separation may expose infants to more contacts with health care workers, increasing the risk of infection. Further, benefits from breastfeeding during the early neonate period are vital and should be continued. The authors conclude that maintenance of early essential newborn care practices including skin-to-skin contact and breastfeeding should be sustained during the COVID-19 pandemic, but should be supplemented by proper infection control practices such as hand hygiene and PPE.	The authors conducted a clinical review exploring care practices for neonates born to mothers with COVID-19. They concluded that early essential newborn care practices including skin-to-skin contact and breastfeeding should be maintained.	Tran HT, Nguyen PTK, Huynh LT, et al. Appropriate care for neonates born to mothers with COVID-19 disease. Acta Paediatr. 2020;109(9):1713-1716. doi:10.1111/apa.15413
Infants, breastfeeding, milk banks, lactation mana gement center, India	9-Jun-20	Ensuring Exclusive Human Milk Diet for All Babies in COVID-19 Times	Indian Pediatrics	Special Article	The World Health Organization recommends continuation of breastfeeding during the COVID-19 pandemic, and if direct breastfeeding is not possible, milk expression should be explored. Pasteurized donor human milk from milk banks may be used if the mother's own milk is not available. To universalize access to human milk, the Indian government has proposed the establishment of comprehensive lactation management	This article discusses challenges in ensuring an exlcusive human milk diet for infants during the COVID-19 pandemic in India, as well as solutions developed by lactation	Sachdeva RC, Jain S, Mukherjee S, Singh J. Ensuring Exclusive Human Milk Diet for All Babies in COVID-19 Times

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					centers/milk banks, lactation management units, and lactation support units at all levels of the public health system. Due to COVID-19, these centers are encountering additional challenges cutting across interventions of rooming in, breastfeeding, milk expression, and provision of donor milk and kangaroo mother care. These issues and alleviation measures taken by these centers are described in this article.	management centers to meet this challenges.	[published online 2020 Jun 9]. Indian Pediatr. 2020;S 097475591600191.
Postnatal infection, neonates, humoral immunity, maternity hospital outbreak, horizontal transmission, Germany	9-Jun-20	Postnatal SARS-CoV-2 Infection and Immunological Reaction: A Prospective Family Cohort Study	Pediatric Allergy and Immunology	Letter to the Editor	In early March 2020, a COVID-19 outbreak at a large maternity center in Germany occurred affecting 36 midwives, nurses, and doctors. Data are presented on all deliveries with varying degrees of unprotected parental contact with SARS-CoV-2 infected personnel during the first, precontainment, week of the outbreak. Out of 66 families concerned, 61 consented to a prospective study. One or both parents from 16 families reported symptoms suggestive of SARS-CoV-2 infection within 2 weeks postpartum. Three of their infants (all spontaneous births) displayed non-specific signs of infection similar to late-onset sepsis. Five of the 16 families reporting COVID-19 compatible symptoms actually contracted COVID-19 based on RT-PCR and antibody evidence. Two of the three symptomatic neonates were RT-PCR positive and one asymptomatic neonate was identified; no neonates had detectable antibodies. Only one mother produced SARS-CoV-2 IgG-positive breast milk. Although the risk of vertical transmission via breastmilk cannot be excluded, postnatal infection of neonates through horizontal transmission is much more likely.	This cohort study describes transmission of SARS-CoV-2 infection from an outbreak of COVID-19 among obstetric staff at a maternity hospital among postpartum women, their family members, and neonates.	Preßler J, Fill Malfertheiner S, Kabesch M, et al. Postnatal SARS-CoV-2 Infection and Immunological Reaction: A Prospective Family Cohort Study [published online 2020 Jun 9]. Pediatr Allergy Immunol. doi:10.1111/pai.13302
Pregnancy, placental infection, adverse fetal/neonatal outcome, PIMS-TS, Netherlands	9-Jun-20	SARS-CoV-2 placental infection and inflammation leading to fetal distress and neonatal multi-organ failure in an asymptomatic woman	medRxiv	Preprint (not peer reviewed)	An asymptomatic pregnant woman with preterm fetal distress during the COVID-19 pandemic is described. Multiple maternal, placental and neonatal swabs were obtained and showed a median viral load in maternal blood, urine, oropharynx, fornix posterior over a period of 6 days was 5.0 log copies /mL. The maternal side of the placenta had a viral load of 4.42 log copies /mL, while the fetal side had 7.15 log copies /mL. Maternal breast milk, feces and all neonatal samples tested negative. Serology of immunoglobulins against SARS-CoV-2 was positive in maternal blood, but negative in umbilical cord and neonatal blood. Pathological examination of the placenta included immunohistochemical investigation against SARS-CoV-2 antigen expression in combination with SARS-CoV-2 RNA in situ hybridization and transmission electron microscopy. It showed the presence of SARS-CoV-2 particles with generalized inflammation characterized by histiocytic intervillositis with diffuse perivillous fibrin depositions with damage to the syncytiotrophoblasts. In this case, placental infection by SARS-CoV-2 lead to fibrin depositions hampering fetal-maternal gas exchange most likely resulted in fetal distress necessitating a premature emergency caesarean section. Postpartum, the neonate showed a clinical presentation resembling a pediatric inflammatory multisystem syndrome including coronary artery ectasia, most likely associated with SARS-CoV-2 (PIMS-TS) for which admission and care on the Neonatal Intensive Care unit (NICU) was required, despite being negative for SARS-CoV-2.	In this case report, SARS-CoV-2 RNA was detected on both maternal and fetal sides of the placenta, and SARS-CoV-2 particles were detected on pathological examination of the placenta.	Schoenmakers S, Snijder P, Verdijk R, et al. SARS-CoV-2 placental infection and inflammation leading to fetal distress and neonatal multi-organ failure in an asymptomatic woman [published online 2020 Jun 9]. medRxiv. doi:10.1101.2020.06.08.20110437
Breastfeeding, human milk expression, breast	8-Jun-20	Breastfeeding, Human Milk Collection and	Journal of Human Lactation	Research Article	With regard to the care of newborns delivered by women with suspected or confirmed COVID-19, the main issues of concern include: (1) breastfeeding during the pandemic; (2) human milk collection and the handling of	An overview of different strategies. with their practical implications, to address issues related to	Moro GE, Bertino E. Breastfeeding, Human Milk Collection

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pump, milk ban king		Containers, and Human Milk Ban king: Hot Topics During the COVID-19 Pandemic			containers when the dyad is separated, with mothers expressing their milk; and (3) making donations of human milk to human milk banks. This report responds to these issues with the following key messages: promoting breastfeeding whenever possible, without disregarding the option of mother's milk expression; utilizing protocols for correct handling of human milk containers; strictly controlling human milk donors for COVID-19 positivity at human milk banks; and allocating available donor milk to the most at-risk preterm infants given decreasing donations.	breastfeeding and COVID-19 is presented in this report.	and Containers, and Human Milk Banking: Hot Topics During the COVID-19 Pandemic [published online 2020 Jun 8]. J Hum Lact. doi:10.1177/0890334420934391
Pregnancy, obstetricians, pediatricians, online survey, Jordan	8-Jun-20	Perceptions of Obstetricians and Pediatricians About the Risk of COVID-19 for Pregnant Women and Newborns	International Journal of Gynecology & Obstetrics	Clinical Article	A structured 27-item online survey was sent via social media messaging to obstetricians and pediatricians from public, academic, and private sectors in Jordan between March 23-30, 2020. A total of 147 physicians participated (107 obstetricians, 40 pediatricians). Participants were well informed about the symptoms, diagnosis, modes of transmission, and methods of prevention. Participants had variable perceptions about COVID-19 risk during pregnancy, including potential vertical transmission, preferred route of delivery, and safety of breastfeeding. Most participants felt that pregnant women should be prioritized for testing and medical care provision.	While evidence-based strategies to reduce the risks of COVID-19 in pregnant women and newborns are evolving, healthcare providers in Jordan showed excellent knowledge of the infection and were vigilant regarding its complications in these populations.	Obeidat N, Saadeh R, Obeidat M, Khasawneh W, Khader Y, Alfaqih M. Perceptions of obstetricians and pediatricians about the risk of COVID-19 for pregnant women and newborns [published online 2020 Jun 8]. Int J Gynaecol Obstet. doi:10.1002/ijgo.13264
Pregnancy, postpartum, temporary separation, breastfeeding, CDC	5-Jun-20	Caring for Women Who Are Planning a Pregnancy, Pregnant, or Postpartum During the COVID-19 Pandemic	JAMA	Insights	Given limited data on COVID-19 in pregnancy and the effects on neonates, recommendations for caring for women who are planning a pregnancy, pregnant, or have given birth during the COVID-19 pandemic are based on expert opinion. There does not seem to be a compelling reason to recommend delaying pregnancy. For women who are pregnant, the primary recommendation is to avoid becoming infected through hygiene and social distancing measures. Guidelines for the care of pregnant women known or suspected to have COVID-19 and admitted for delivery have been developed by the Centers for Disease Control and Prevention and professional organizations and are summarized here. Issues related to hospital placement of the newborn born to a mother with COVID-19 are challenging; shared decision-making between the mother and the care is recommended. For those who select temporary separation, expression of breast milk with hygiene precautions should be encouraged. A mother who chooses to room with her newborn should use a face mask and careful hand and breast hygiene before breastfeeding.	Existing guidelines on the care of pregnant women with suspected or confirmed COVID-19, who are admitted for delivery, are summarized.	Rasmussen SA, Jamieson DJ. Caring for Women Who Are Planning a Pregnancy, Pregnant, or Postpartum During the COVID-19 Pandemic [published online 2020 Jun 5]. JAMA Insights. doi:10.1001/jama.2020.8883
Nutritional status, women, children, Nepal	5-Jun-20	An urgent call to address the nutritional status of women and children in Nepal during COVID-19 crises	International Journal for Equity in Health	Original article	In Nepal, communities and vulnerable groups like women and children dealing with malnutrition are doubly susceptible to compromised health due to the COVID-19 pandemic. In addition, the lockdown has resulted in a decrease in household incomes leading to less availability and reduced access to food, and restriction in receiving essential health care services. Nutrition services through the outpatient therapeutic center and nutrition rehabilitation homes have also been affected as a result of the priority shift of the health sector towards COVID-19. Insufficient breastfeeding practices,	This article summarizes nutritional concerns in Nepal during this pandemic, and argue that nutrition should thus be a core component of the COVID-19 response plan, integrated into each aspect of prevention, treatment, and recovery.	Panthi B, Khanal P, Dahal M, Maharjan S, Nepal S. An urgent call to address the nutritional status of women and children in Nepal during COVID-19 crises. Int J Equity

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					due to fear and anxiety of transmission of COVID 19 from breastfeeding mothers, result in decreased feeding and caring practices for children. The possible ways to ensure better nutrition among women and children in resource-constrained settings like Nepal could be a combination of different measures. The authors argue for developing and implementing mitigation strategies to reach out to those most affected by the crisis and activation and functionality of nutrition clusters to ensure a predictable, timely, and effective nutrition response. Program and service to promote breastfeeding and feeding practices should remain a critical component. Counseling and psychological support to mothers and caregivers of under 5-year children are required as well as ensuring nutrition commodities are available and accessible.		Health. 2020;19(1):87. Published 2020 Jun 5. doi:10.1186/s12939-020-01210-7
Neonates, vertical transmission, fetal distress, hypoxic-ischemic encephalo-pathy, India	5-Jun-20	Manifestations in Neonates Born to COVID-19 Positive Mothers	The Indian Journal of Pediatrics	Scientific Letter	The authors report two neonates born to COVID-19 positive women. The first neonate was born at term via emergency cesarean section due to fetal distress. A neonatal RT-PCR was sent at 18 hours of life and was negative. The mother wore a mask and breastfed the neonate; both remained well on follow up. The second neonate was also delivered via cesarean section due to fetal distress and meconium stained liquor, requiring resuscitation at birth followed by mechanical ventilation. The neonate developed shock and later seizures, while brain MRI revealed subdural hemorrhage. Neonatal nasopharyngeal swabs for SARS-CoV-2 RT-PCR were negative on days 3, 5, and 8 of life, and the neonate was discharged on day 12 after recovering from hypoxic-ischemic encephalopathy.	Lack of evidence for transplacental transmission of SARS-CoV-2 infection in this case report of two neonates is consistent with recent publications.	Jain P, Thakur A, Kler N, Garg P. Manifestations in Neonates Born to COVID-19 Positive Mothers [published online 2020 Jun 5]. Indian J Pediatr. doi:10.1007/s12098-020-03369-x
Pregnancy, neonates, management, viral transmission, breastfeeding, Germany	5-Jun-20	Management of Care for Neonates Born to SARS-CoV-2 Positive Women With or Without Clinical Symptoms (COVID-19)	Klinische Pädiatrie	Diagnostic and Treatment Recommen-dation	The German Society for Pediatric Infectious Diseases in accordance with the German Society for Gynecology and Obstetrics and the German Society for Perinatal Medicine releases this statement on recommendations for the management of neonates born to SARS-CoV-2 positive women. Both background information on SARS-CoV-2 transmission as well as potential scenarios are presented. Since possible transmission through respiratory droplets or close mother-child contact constitutes the greatest risk of infection, the authors outline important hygiene measures to prevent infection while breastfeeding.	Several professional societies from Germany outline recommendations for the management of neonates born to mothers with COVID-19.	Simon A, Hübner J, Knuf M, Hufnagel M, Berner R. Management of Care for Neonates Born to SARS-CoV-2 Positive Women with or without Clinical Symptoms (COVID-19) [published online 2020 Jun 5]. Klin Padiatr. doi:10.1055/a-1168-2845
Pregnancy, breast milk sam ple, breastfeeding, China	4-Jun-20	Breastfeeding Ris k From Detectable Severe Acute Respiratory Syndrome Coronavirus 2 in Breastmilk	Journal of Infection	Letter to the Editor	Five hospitalized pregnant women with COVID-19 in their third trimester presented with clinical symptoms and imaging consistent with SARS-CoV-2 infection. Four patients had cesarean delivery, while one patient delivered her newborn vaginally. All patients experienced favorable clinical outcomes. All available vaginal secretion samples were negative for SARS-CoV-2, whereas SARS-CoV-2 RNA was detected in breastmilk samples collected from one patient on days 2 and 3 post-delivery (RT-PCR Ct values of 38.2 and 38.5 respectively). The clinical characteristics of this patient were similar to those of other COVID-19 positive women with negative breastmilk results.	SARS-CoV-2 RNA was detected in consecutive breastmilk samples of one puerperal woman in this case series from Wuhan, China.	Zhu C, Liu W, Su H, et al. Breastfeeding Risk from Detectable Severe Acute Respiratory Syndrome Coronavirus 2 in Breastmilk [published online 2020 Jun 4]. J Infect. doi:10.1016/j.jinf.2020.06.001

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Pregnancy, neonates, vertical transmission, breastfeeding, coronaviruses, SARS, MERS	4-Jun-20	Relationship Between Pregnancy and Coronavirus: What We Know	The Journal of Maternal-Fetal & Neonatal Medicine	Review Article	Pregnancy is characterized by changes involving both the immune system and the pulmonary physiology, exposing the pregnant woman to a greater susceptibility to viral infections and more serious complications. The objective of this review is to analyze the relationship between pregnancy and known coronaviruses, with particular reference to SARS-CoV-2. The molecular bases of immunology and pregnancy are discussed, as well as documented clinical findings in literature. On the basis of available data, COVID-19 appears neither more frequent nor more serious in pregnancy than in non-pregnant women. Perinatal adverse events have been observed but are milder than in SARS and MERS, with preterm delivery representing the main complication of COVID-19 in pregnancy. In addition, breastfeeding is recommended in COVID-19 since viral transmission via breast milk has not been demonstrated. Looking ahead, further research on maternal immune activation in COVID-19 is needed, to understand the effects of exposing the fetus to inflammatory response.	A current review of literature of COVID-19 in pregnancy and comparison to other coronaviruses are offered.	Forestieri S, Marcialis MA, Migliore L, Panisi C, Fanos V. Relationship between pregnancy and coronavirus: what we know [published online 2020 Jun 4]. J Matern Fetal Neonatal Med. doi:10.1080/14767058.2020.1771692
Neonatal infection, ruptured amniotic membranes, breastfeeding, horizontal transmission, Brazil	3-Jun-20	Neonatal SARS-CoV-2 Infection	Clinics (Sao Paolo)	Letter	A male neonate was born vaginally at full term; the mother's amniotic membranes had ruptured 11 hours before delivery. He presented with early respiratory distress, which improved after receiving inhaled oxygen in the first 12 hours of life. Blood examinations were normal, and chest radiography showed a left clavicle fracture. The patient was discharged home on the third day of life, on exclusive breastfeeding. At home, family members complied with isolation requirements, and the newborn had no contact with other patients with flu-like symptoms. On day 11 of life, the newborn had two episodes of hyperthermia and mild respiratory distress. Nasal and oropharyngeal samples for SARS-CoV-2 were positive by RT-PCR. The neonate had favorable clinical course while hospitalized and remained mostly breastfed (he was given formula only when breast milk was unavailable).	Favorable clinical course of COVID-19 is described in a male neonate, who remained breastfed from birth and throughout the recovery process.	Carvalho WB, Gibelli MAC, Krebs VLJ, Calil VMLT, Nicolau CM, Johnston C. Neonatal SARS-CoV-2 infection. Clinics (Sao Paulo). 2020;75:e1996. doi:10.6061/clinics/2020/e1996
Pregnancy, neonates, human milk samples, breastfeeding, Italy	2-Jun-20	Excretion of Sars-Cov-2 in Human Breastmilk Samples	Clinical Microbiology and Infection	Letter to the Editor	In this report, two pregnant women were admitted to a hospital in Rome, Italy and tested positive for SARS-CoV-2. Both patients were in their third trimester and underwent cesarean section following fetal distress. Both neonates did not receive breastmilk, as a precaution. In one mother, viral RNA was detected in multiple breastmilk samples, collected on subsequent days after delivery, as well as placental tissue and cord blood samples. Cycle threshold value of less than 40 (interpreted as positive for SARS-CoV-2 RNA) in three of six breastmilk samples indicate excretion of virus into breastmilk. Thus, the authors recommend against the practice of breastfeeding until the mother has achieved viral clearance. Assessment for live virus isolation was not performed in clinical samples in this study.	Testing from various body sites or fluids of pregnant women with COVID-19 is needed to assess potential mother-to-child transmission of SARS-CoV-2 by extra-respiratory routes.	Costa S, Posteraro B, Marchetti S, et al. Excretion of Sars-Cov-2 in human breastmilk samples [published online 2020 Jun 2]. Clin Microbiol Infect. doi:10.1016/j.cmi.2020.05.027
Immunity, maternal-fetal interface, placenta, pregnancy	1-Jun-20	Why are pregnant women susceptible to COVID-19? An immunological viewpoint	Journal of Reproductive Immunology	Review Article	In this article written in March 2020, the authors state that pregnant women are generally vulnerable to respiratory infection, so they may be more susceptible to COVID-19. They focus on immunological reasons for susceptibility and complications related to COVID-19 in pregnancy. From the available literature, the authors report an increased prevalence of preterm deliveries for COVID-19 positive mothers, but no evidence of vertical transmission nor SARS-CoV-2 in breast milk. During pregnancy, innate immune cells respond more strongly to viral challenges, while some adaptive	In this article written in March 2020, the authors discuss immunological reasons for susceptibility and complications related to COVID-19 in pregnancy. From the available literature, they also found no evidence of vertical	Liu H, Wang LL, Zhao SJ, Kwak-Kim J, Mor G, Liao AH. Why are pregnant women susceptible to COVID-19? An immunological viewpoint. J Reprod Immunol. 2020

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		[Free access to abstract only]			immune responses are down-regulated. Pregnancy hormones cause swelling of the upper respiratory tract, and restricted lung expansion makes pregnant women susceptible to respiratory pathogens. Since pregnant women in their first and third trimesters are in a pro-inflammatory state, a cytokine storm due to SARS-CoV-2 may induce more severe inflammation in these women. Moreover, the authors state that maternal inflammation, fever, and increased immune activation in pregnancy can affect fetal brain development and post-natal functioning. Animal studies have shown that elevated maternal cytokines can be toxic to early embryo development. Early detection and intervention for COVID-19 may reduce potential obstetrical complications. Pregnant women who have had COVID-19 should be carefully monitored throughout pregnancy and the postpartum period.	transmission nor SARS-CoV-2 in breast milk.	Jun;139:103122. doi: 10.1016/j.jri.2020.103122. Epub 2020 Mar 19. PMID: 32244166; PMCID: PMC7156163.
Pregnancy, neonates, breastfeeding, breast milk samples, IgM and IgG antibodies, China	1-Jun-20	Safety of Breastfeeding in Mothers with SARS-CoV-2 Infection	medRxiv	Preprint (not peer reviewed)	To evaluate the effect of breastfeeding on SARS-CoV-2 transmission, the presence of SARS-CoV-2, IgG and IgM in breast milk, maternal blood and infant blood were assessed in this study. Among 23 pregnant women with suspected (n=9) or confirmed (n=14) SARS-CoV-2 infection in the third trimester or puerperium, all breast milk samples were negative for the detection of SARS-CoV-2. Testing for IgM and IgG antibodies in breast milk and maternal blood was performed in seven patients; IgM antibodies were present in four confirmed patients and one suspected patient, correlating with IgM detection in maternal blood. IgG antibodies were not detected in any breast milk sample. SARS-CoV-2 testing by throat swab was performed in 15 neonates at birth and in six neonates in the NICU after birth; all results were negative. Following birth, all neonates were in healthy condition, and six were fed with whole or partial breast milk. Eight neonates received SARS-CoV-2 antibody testing one month after birth, and all results were negative.	Findings from this small number of cases suggest that there is currently no evidence for mother-to-child viral transmission via breastfeeding in women with COVID-19 in the third trimester and puerperium.	Luo Q, Chen L, Yao D, et al. Safety of Breastfeeding in Mothers with SARS-CoV-2 Infection [published online 2020 Jun 1]. medRxiv. doi:10.1101/2020.05.30.20033407
Human milk, donor milk, donor milk banking, wet nursing, infant morbidity, infant mortality, exclusive breastfeeding, breastfeeding, healthcare disparities, supplementation, altruism	1-Jun-20	Wet Nurses to Donor Milk Banks and Back Again: The Continuum of Sharing Our Milk to Save Lives	Journal of Human Lactation	Editorial	This article summarizes the importance of breastfeeding and wet nursing. The author goes into detail on donor milk banking as the logical next step in the evolution of mothers sharing milk directly to others to sustain life within a society. The author argues it is efficacious to collect and store the milk in a central place which is also responsible for donor and milk testing, from where it can be distributed to those in need, even at great distances. There are increasing numbers of emergencies in which large numbers of families are displaced, accompanied by a myriad of associated life-threatening problems. A current example of this type of emergency is the COVID-19 pandemic. New research is emerging, and guidance for mothers and their newborns on proximity, skin-to-skin contact, and feeding appears from a variety of sources with conflicting messages. WHO recommends that if the mother is too unwell to breastfeed or express breastmilk, explore the viability of relactation, wet nursing, donor human milk, or appropriate breastmilk substitutes.	This article argues that donor milk banking has become an important portion of how we supplement infants who do not or cannot receive a diet of exclusive mother's own milk, and it plays a significant role in this pandemic.	Marinelli KA. Wet Nurses to Donor Milk Banks and Back Again: The Continuum of Sharing Our Milk to Save Lives. J Hum Lact. 2020;36(2):213-216. doi:10.1177/0890334420927329
Human milk samples, breastfeeding, viral transmission	30-May-20	Detectable Severe Acute Respiratory Syndrome Coronavirus 2	Clinical Infectious Diseases	Brief Report	In this case, a 40-year-old female with mild clinical symptoms tested positive for SARS-CoV-2 on RT-PCR testing of a combined oro/nasopharyngeal swab. Her 8-month-old son, who had been breastfed until the day of maternal symptom onset, also tested positive for SARS-CoV-2; upon confirmed SARS-CoV-2 infection in the infant, breastfeeding was resumed with no adverse	This case report describes an actively breastfeeding patient with SARS-CoV-2 infection with detectable viral RNA in human milk; the patient's infant	Tam PCK, Ly KM, Kernich ML, et al. Detectable severe acute respiratory syndrome coronavirus

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		(SARS-CoV-2) in Human Breast Milk of a Mildly Symptomatic Patient With Coronavirus Disease 2019 (COVID-19)			effects. The mother had detectable viral RNA in human milk in two separate samples taken 10 days apart (5 and 15 days after maternal symptom onset, respectively) but interspersed with a number of negative results. Contamination from the infant's oropharynx is unlikely because breastfeeding was stopped for five days prior to collection of the first sample and all samples thereafter were collected prior to feeding. The risk of environmental contamination is also unlikely given appropriate hand hygiene and resolution of maternal respiratory symptoms at time of sample collection. There appeared to be no relationship between RT-PCR cycle threshold values from the patient's or infant's oropharyngeal samples with viral RNA detection in human milk. Although SARS-CoV-2 RNA was identified in human milk samples, whether this translates to viable virus or degraded residual nucleic acid could not be ascertained. Due to the infant's travel history and close contact with the mother, viral transmission via breastfeeding is presumed to be unlikely by the authors. Thus, the benefits of human milk likely greatly outweigh risks associated with maternal SARS-CoV-2 infection, due to conferring protection to other respiratory illnesses.	also tested positive for SARS-CoV-2, but no adverse effects from breastfeeding were noted and viral transmission via human milk is concluded unlikely by the authors.	2 (SARS-CoV-2) in human breast milk of a mildly symptomatic patient with coronavirus disease 2019 (COVID-19) [published online 2020 May 30]. Clin Infect Dis. doi:10.1093/cid/ciaa673
Human milk, breastfeeding, human coronaviruses, assay validation	30-May-20	SARS-CoV-2 and Human Milk: What Is the Evidence?	Maternal & Child Nutrition	Review Article	There is limited published literature related to vertical transmission of any human coronaviruses via human milk and/or breastfeeding. Results of the present literature search revealed a single study providing some evidence of vertical transmission of human coronavirus 229E; a single study evaluating presence of SARS-CoV in human milk (it was negative); and no published data on MERS-CoV and human milk. In total, 13 studies reporting human milk tested for SARS-CoV-2 were identified; one study detected the virus in one milk sample, and another study detected SARS-CoV-2 specific IgG in milk. Importantly, none of the studies on coronaviruses and human milk report validation of their collection and analytical methods for use in human milk. In addition, little remains known about the timing of antibody response in human milk to SARS-CoV-2 infection. Future research should utilize validated methods and focus on both potential risks and protective effects of breastfeeding.	Limited reports on the presence of human coronaviruses, including SARS-CoV-2, in human milk are described; these studies do not report methods of sample collection or validation of assays for human milk.	Lackey KA, Pace RM, Williams JE, et al. SARS-CoV-2 and human milk: What is the evidence? [published online 2020 May 30]. Matern Child Nutr. doi:10.1111/mcn.13032
Pregnancy, risk perceptions, knowledge, breastfeeding, China	29-May-20	The outbreak of coronavirus disease in China: Risk perceptions, knowledge, and information sources among prenatal and postnatal women	Women and Birth	Original Research	Using cross-sectional survey design, a four-section online questionnaire was administered to 161 prenatal and postnatal women during the COVID-19 outbreak in Nanjing, China, in February 2020. The participants perceived their risk of contracting and dying from COVID-19 to be lower than their risk of contracting influenza, however many of them were worried that they might contract COVID-19. The participants demonstrated adequate knowledge about COVID-19. The three major sources from which they obtained information about COVID-19 were doctors, nurses/midwives, and the television. The majority of women thought neonates of pregnant women with suspected or confirmed COVID-19 should be isolated for at least 14 days after birth and that women with suspected or confirmed COVID-19 should not breastfeed their neonates.	Although surveyed prenatal and postnatal women demonstrated adequate knowledge about COVID-19, they had misunderstood some of the WHO recommendations.	Lee TY, Zhong Y, Zhou J, He X, Kong R, Ji J. The outbreak of coronavirus disease in China: Risk perceptions, knowledge, and information sources among prenatal and postnatal women [published online 2020 May 29]. Women Birth. doi:10.1016/j.wombi.2020.05.010

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Pregnancy, breastfeeding, diabetes, recommen-dations, Italy	29-May-20	Breastfeeding During the COVID-19 Pandemic: Suggestions on Behalf of Woman Study Group of AMD	Diabetes Research and Clinical Practice	Review	Breastfeeding improves the health of mother and child and reduces risk of neonatal infection with other pathogens that are likely to cause serious illness. To date, no evidence has confirmed COVID-19 vertical transmission from infected mother to fetus. However, it is well known that an infected mother can transmit the SARS-CoV-2 virus through respiratory droplets during breastfeeding or intimate contact. Thus, mothers with known or suspected COVID-19 should adhere to standard and contact precautions during breastfeeding. After reviewing current knowledge about COVID-19 vertical transmission and the compatibility of breastfeeding in COVID-19 positive mothers, the Woman Study Group of AMD has compiled available recommendations, from health care organizations and expert opinions, to facilitate mother-newborn interaction and the initiation of breastfeeding, addressing both mothers with and without diabetes.	A summary of recommendations in support of breastfeeding in mothers with suspected or confirmed COVID-19 is presented.	Giuliani C, Li Volsi P, Brun E, et al. Breastfeeding during the COVID-19 pandemic: suggestions on behalf of Woman Study Group of AMD [published online 2020 May 29]. Diabetes Res Clin Pract. doi:10.1016/j.diabres.2020.108239
Neonates, cord clamping, breastfeeding, isolation, skin-to-skin contact	28-May-20	Delayed Umbilical Cord Clamping and Breastfeeding After Childbirth in Mothers Affected by COVID 19: Recommended or Not?	European Journal of Obstetrics & Gynecology and Reproductive Biology	Correspond ence	Newborns are more vulnerable to the potential consequence of COVID-19 due to their immature immune systems. Currently, there is insufficient evidence for vertical transmission from mother to fetus via amniotic fluid, umbilical blood or breast milk. Since respiratory droplets are a major route of transmission to the infant during the delivery process, early cord clamping, immediate isolation of the newborn, and lack of skin-to-skin contact can reduce the newborn's risk of infection. If a mother is generally well, breastfeeding should be allowed while observing hygiene precautions.	This brief correspondence argues against delayed umbilical cord clamping but in favor of breastfeeding in newborns born to mothers with COVID-19.	Kohan S, Rahnemaei FA. Delayed umbilical cord clamping and breastfeeding after childbirth in mothers affected by COVID 19: Recommended or not? [published online 2020 May 28]. Eur J Obstet Gynecol Reprod Biol. doi:10.1016/j.ejogrb.2020.05.041
Maternal breastfeeding, neonate, pregnancy	27-May-20	Coronavirus Covid-19 infection and breastfeeding: an exploratory review [Access to Abstract in English Only; Article in Spanish]	Revista Española de Salud Pública	Review	The review aims to investigate the action plan on breastfeeding in postpartum women with SARS-CoV-2 and her newborn. A literature search was conducted through the Medline, Web of Science, Scopus, BVS, and Cuiden databases. A total of 14 documents have been found, of which 9 are observational empirical studies. Most of the studies were conducted in China, Italy, the USA, and Australia. A total of 114 mothers infected with SARS-CoV-2 with their respective newborns have been assessed. The results suggest that newborns should be breastfed and detecting the presence of antibodies of the coronavirus in them is a protective factor against infection. Breastfeeding in postpartum women with SARS-CoV-2 is highly recommended for the newborn if the health of the mother and newborn allows it. When direct breastfeeding is favored, the appropriate respiratory hygiene measures should be considered. If the mother's health does not permit direct breastfeeding, her breast milk should be previously extracted and kept unpasteurized. To secure newborn feeding, milk banks are also an appropriate option.	This review argues that the newborns should be breastfed if the maternal and child health status allows it and appropriate hygiene measures should be considered.	Fernández-Carrasco FJ, Vázquez-Lara JM, González-Mey U, Gómez-Salgado J, Parrón-Carreño T, Rodríguez-Díaz L. Infección por coronavirus Covid-19 y lactancia materna: una revisión exploratoria [Coronavirus Covid-19 infection and breastfeeding: an exploratory review]. Rev Esp Salud Publica. 2020;94:e202005055. Published 2020 May 27.

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Human milk, viral load, thermal pasteurization, coronaviruses	27-May-20	The impact of thermal pasteurization on viral load in human milk and other matrices: A rapid review	medRxiv	Preprint (not peer reviewed)	Thermal pasteurization (62.5°C, 30 min) of human milk (HM) is thought to reduce the risk of transmitting viruses to an infant. Some viruses may be secreted into milk; others may be contaminants. Primary research articles until April 20, 2020 were identified to assess the impact of pasteurization on viral load or detection of live virus. Reviews were excluded, as were studies lacking quantitative measurements or those assessing pasteurization as a component of a larger process. Overall, 65,131 reports were identified, and 108 included. Pasteurization of HM at a minimum temperature of 56°C-60°C is effective at reducing detectable live virus. In cell culture media or plasma, coronaviruses (e.g., SARS-CoV, SARS-CoV-2, MERS) are highly susceptible to heating at ≥56°C. Future research should standardize pasteurization protocols and test viral inactivation using a human milk matrix.	This review describes the effect of thermal pasteurization on reducing detectable live viruses, like coronaviruses, in human milk.	Pitino MA, O'Connor DL, McGeer AJ, Unger S. The impact of thermal pasteurization on viral load in human milk and other matrices: A rapid review [published online 2020 May 27]. medRxiv. doi:10.1101/2020.05.23.20111369
Perinatal mental health, NICU staff, post-traumatic stress	27-May-20	Covid-19 and the Need for Perinatal Mental Health Professionals: Now More Than Ever Before	Journal of Perinatology	Comment	In ordinary times, the experience of a NICU hospitalization is a potentially traumatic event for the newborn's parents. A published estimate of the prevalence of diagnosable mental disorders in NICU parents in the first partum year is 20–30%. To the author's knowledge, the highest report of parental post-traumatic stress symptoms in the literature (60% of mothers and 47% of fathers exceeding threshold) comes from a NICU that had strict limitations on skin-to-skin care and breastfeeding (not allowed) and visitation curtailment to one parent at a time. The current pandemic's limitations on parental engagement with newborns in the NICU, as well as exclusion of partners from labor and delivery will have serious effects on the wellbeing of families. Currently, most NICU social workers and psychologists are considered non-essential. Strategies to add mental health staff in the perinatal setting must be incorporated into discussions to promote the psychological health of parents, newborns, and NICU workers.	This article discusses the need to incorporate more perinatal mental health staff into NICUs, to support parents, newborns, and staff experiencing added stress during this pandemic.	Hynan MT. Covid-19 and the need for perinatal mental health professionals: now more than ever before [published online 2020 May 27]. J Perinatol. doi:10.1038/s41372-020-0696-z
Pregnancy, neonates, separation policies, breastfeeding, WHO	26-May-20	When Separation Is Not the Answer: Breastfeeding Mothers and Infants Affected by COVID-19	Maternal & Child Nutrition	Original Article	The WHO has provided detailed guidance on the care of infants of women who are a person under investigation (PUI) or confirmed to have COVID-19, which supports immediate postpartum mother-infant contact and breastfeeding with appropriate respiratory precautions. Although many countries have followed WHO guidance, others have implemented infection prevention and control policies that impose varying levels of postpartum separation and discourage or prohibit breastfeeding or provision of expressed breastmilk. These policies aim to protect infants from the potential harm of infection from their mothers, yet they may fail to fully account for the impact of separation. Global COVID-19 data are suggestive of potentially lower susceptibility and a typically milder course of disease among children, although the potential for severe disease in infancy remains. Separation causes cumulative harms, including disrupting breastfeeding and limiting its protection against infectious disease, which has disproportionate impacts on vulnerable infants. Separation also presumes the replaceability of breastfeeding—a risk that is magnified in emergencies. Moreover, separation does not ensure lower viral exposure during hospitalizations and post-discharge and contributes to the burden on overwhelmed health systems. Finally, separation magnifies maternal health consequences of insufficient breastfeeding and compounds trauma in communities who have experienced long-standing inequities and violence,	This article discusses the potential detrimental effects of separation policies in settings that have not followed WHO-directed guidance promoting proximity and breastfeeding for COVID-19 affected mothers and infants.	Tomori C, Gribble K, Palmquist AEL, Ververs MT, Gross MS. When Separation is not the Answer: Breastfeeding Mothers and Infants affected by COVID-19 [published online 2020 May 26]. Matern Child Nutr. doi:10.1111/mcn.13033

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					including family separation. Taken together, separating PUI/confirmed SARS-CoV-2 positive mothers and their infants may lead to excess preventable illnesses and deaths among infants and women around the world.		
Children, viral pneumonia, risk factors, LMICs	26-May-20	Protecting Children in Low-Income and Middle-Income Countries From COVID-19	BMJ Global Health	Editorial	Based on child pneumonia experience, COVID-19, a viral pneumonia syndrome, may impact children in low- and middle-income countries (LMICs) more severely than what has been observed to date in high-income countries (HICs). Risk factors for poor outcomes in pneumonia are overwhelmingly more prevalent in LMICs; these include severe malnutrition, low immunization uptake, nutritional anemia, HIV exposure or infection, air pollution, poverty, low parental education and, crucially, limited access to high-quality acute healthcare. The indirect effects of the COVID-19 response also require attention, for example widespread parental unemployment, disrupted education, food and housing insecurity and threats to vital preventive health programs, like immunization, antenatal care, infant feeding and mental health. The authors suggest that vital services and health workforce must be maintained, COVID-19 testing must be scaled up in LMICs, lockdown strategies should be tailored to specific environments, and further research on COVID-19 in children must be conducted.	The authors draw on their shared child pneumonia experience globally to highlight the potential impacts of COVID-19 on children in LMICs and propose actions for a collective response.	Ahmed S, Mvalo T, Akech S, et al. Protecting children in low-income and middle-income countries from COVID-19. BMJ Glob Health. 2020;5(5):e002844. doi:10.1136/bmjgh-2020-002844
Pregnancy, neonates, maternal outcomes, cesarean delivery, breast milk, systematic review	26-May-20	Complications and Outcomes of SARS-CoV-2 in Pregnancy: Where and What Is the Evidence?	Hypertension in Pregnancy	Review	A systematic search of relevant databases was performed on March 25 and a repeat search, on April 10, 2020. Reports of pregnant patients with SARS-CoV-2 infection at any time during their pregnancy were reviewed, and the outcomes of 155 pregnant women and 118 neonates were summarized. The evidence suggests a similar rate of severe COVID-19 cases in pregnant women and the general population. The frequency of cesarean deliveries is high, against guidelines recommendations, and requires clarification. Placenta, amniotic fluid, umbilical cord blood, breastmilk, gastric juice, urine, and feces were all screened for SARS-CoV-2 in different studies and were reported as negative suggesting a possible lack of vertical transmission. There are limited data on COVID-19 during pregnancy, associated with wide variations in methodology that make accurate data interpretation difficult.	This review adds to the growing evidence on SARS-CoV-2 infection during pregnancy and calls for improvement of the level of quality of the studies to allow evidence-based decisions regarding pregnant patients.	Teles Abrao Trad A, Ibirogba ER, Elrefaei A, et al. Complications and outcomes of SARS-CoV-2 in pregnancy: where and what is the evidence? [published online 2020 May 26]. Hypertens Pregnancy. doi:10.1080/10641955.2020.1769645
Pregnancy, neonates, adverse maternal outcomes, SARS-CoV, MERS-CoV, prenatal guidance	26-May-20	Sars-CoV-2 in the Context of Past Coronaviruses Epidemics: Consideration for Prenatal Care	Prenatal Diagnosis	Review	This narrative review describes current knowledge about coronaviruses (SARS, MERS and SARS-CoV-2) and their risks and consequences on pregnancies. A summary of available candidate therapeutic options for pregnant women is also offered with consideration of the compatibility of described drugs with breastfeeding and their excretion into breastmilk. The authors also compare guidance proposed by the Royal College of Obstetricians (RCOG), American College of Obstetricians and Gynecologists (ACOG), and the WHO to give an overview of prenatal management which should be utilized until future data appear.	A review of corona-viruses in pregnancy, current therapeutic options for pregnant women with COVID-19 (with considerations for breastfeeding), and comparison of current guidance on perinatal management are provided.	Lambelet V, Vouga M, Pomar L, et al. Sars-CoV-2 in the context of past coronaviruses epidemics: Consideration for prenatal care [published online 2020 May 26]. Prenat Diagn. doi:10.1002/pd.5759
Labor and delivery, visitor policy, labor companionship, breastfeeding	22-May-20	Labor and Delivery Visitor Policies During the COVID-19 Pandemic:	JAMA	Viewpoint	Although variation exists in visitor policies, many hospitals have instituted a limit of 1 adult visitor for each patient in labor and delivery units. As recommended by the Centers for Disease Control and Prevention and the American College of Obstetricians and Gynecologists, this visitor should be afebrile and screened for symptoms prior to entry. Apart from the emotional rationale, ethical and clinical reasoning supports excluding labor and delivery	This article considers the risks and benefits of restrictive visitory policies on labor and deliver units.	Arora KS, Mauch JT, Gibson KS. Labor and Delivery Visitor Policies During the COVID-19 Pandemic: Balancing Risks and

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		Balancing Risks and Benefits			units from visitor prohibition policies. As noted by the WHO, continuous companionship during labor is recommended for all pregnant women to potentially improve labor outcomes. In addition, although guidelines to physically distance infants are evidence-based, they are not pragmatic. Many families, especially if both the patient and visitor are SARS-CoV-2 positive, lack the resources to isolate from the newborn for 14 days. Furthermore, risk of harm to bonding and breastfeeding initiation exists. Implementing a labor and delivery unit visitor policy necessitates balancing risks and benefits to the patient, the visitor, the community, the health care team, and the infant.		Benefits [published online 2020 May 22]. JAMA. doi:10.1001/jama.2020.7563
Breast milk, newborn, pregnancy	22-May-20	SARS-CoV-2 Infection and the Newborn	Frontiers in Pediatrics	Review	This review focused on the scarce information about COVID-19's clinical features, laboratory findings and prognosis in children and newborns. Since they are asymptomatic or mildly symptomatic, the majority of children do not undergo diagnostic investigations. Children who become infected with SARS-CoV-2 may have more upper respiratory tract than lower respiratory tract involvement. While there is no specific treatment for the disease, but hemodynamic stabilization of the infant, respiratory management and other daily care are essential. Drugs against cytokine storm syndrome such as corticosteroids or tocilizumab are under investigation, and this study found that routine antibiotics are not recommended. Antibiotics may be used if there is secondary bacterial infection. Standard immunoglobulins or hormonal treatments are not helpful. There is currently no information on the long-term effects of COVID-19 acquired in the neonatal period.	Infant treatment for COVID-19 is mainly symptomatic, and anti-viral treatment is not generally needed in newborns. There are no data on the efficacy of anti-viral drugs in the newborn population. This paper also discusses findings related to breastmilk and SARS-CoV-2.	Ovalı F. SARS-CoV-2 Infection and the Newborn. Front Pediatr. 2020;8:294. doi:10.3389/fped.2020.00294
Neonatal infection, acute respiratory failure, USA	22-May-20	A Case Report of Neonatal Acute Respiratory Failure Due to SARS-CoV-2	Journal of the Pediatric Infectious Diseases Society	Case Report	On April 1, 2020, a 10-day-old male infant (born at 39 weeks' gestation via normal spontaneous vaginal delivery) presented to the Emergency Department (ED) with increased nasal secretion and labored breathing, approximately 1 week after exposure to family members who had upper respiratory symptoms the week prior. At the ED, laboratory and clinical findings were consistent with hypoxic respiratory failure. On admission to the PICU, increased nasal flaring and secretions, increased 'work of breathing', subcostal retractions, and lethargy were noted, and SARS-CoV-2 was detected by RT-PCR on his nasopharyngeal (NP) swab. On day 3, the patient was successfully weaned off nasal cannula oxygen to room air and was discharged the following day. Five days later, the patient returned with increased nasal congestion, subcostal retractions, and decreased feeding. NP swabs from both the patient and the mother tested positive for SARS-CoV-2; the infant's NP swab showed qualitatively lower viral load than the first specimen tested five days prior. The patient's respiratory symptoms resolved, and he was discharged the next morning.	This case presents a unique presentation of respiratory failure due to SARS-CoV-2 in a neonatal patient.	Precit MR, Yee R, Anand V, Mongkolrattanothai K, Pandey U, Dien Bard J. A Case Report of Neonatal Acute Respiratory Failure Due to SARS-CoV-2 [published online 2020 May 22]. J Pediatric Infect Dis Soc. doi:10.1093/jpids/piaa064
Pregnancy, neonates, severe pneumonia, inflammatory markers, neutrophil /lymphocyte	22-May-20	Clinical Course of Coronavirus Disease-2019 (COVID-19) in Pregnancy	Acta Obstetricia et Gynecologica Scandinavica	Original Article	Data on the first 60 pregnant women with COVID-19 at the Puerta de Hierro University Hospital, Madrid, Spain from March 14 to April 14, 2020 were reviewed. The most common symptoms were fever and cough (75.5%, each) followed by dyspnea (37.8%). 41 patients (68.6%) required hospital admission (18 due to disease worsening and 23 for delivery) of whom 21 patients (35%) underwent pharmacological treatment, including hydroxychloroquine, antivirals, antibiotics and tocilizumab. No renal or cardiac failures or maternal deaths were reported. Lymphopenia (50%),	In this study of pregnant patients with COVID-19, CRP and D-dimer levels positively correlated with severe pneumonia and the neutrophil/lymphocyte ratio decreased as the patients improved clinically. No cases of vertical or horizontal transmission	Pereira A, Cruz-Melguizo S, Adrien M, Fuentes L, Marin E, Perez-Medina T. Clinical course of Coronavirus Disease-2019 (COVID-19) in pregnancy [published

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ratio, breastfeeding, Spain					thrombocytopenia (25%), and elevated C-reactive protein (CRP) (59%) were observed in the early stages of the disease. Median CRP, D-dimer and the neutrophil/lymphocyte ratio were elevated. High CRP and D-dimer levels were the parameters most frequently associated with severe pneumonia. The neutrophil/lymphocyte ratio was found to be the most sensitive marker for disease improvement (relative risk: 6.65; 95% CI: 4.1-5.9). During the study period, 23 women delivered, 18 (78%) vaginally. All newborns tested negative for SARS-CoV-2 by RT-PCR on nasopharyngeal swabs. Of 21 breastfed neonates, two were admitted to the NICU for respiratory distress syndrome and hemolytic anemia, respectively. No SARS-CoV-2 was detected in placental tissue.	were diagnosed in neonates, breastfed or not.	online 2020 May 22]. Acta Obstet Gynecol Scand. doi:10.1111/aogs.13921
COVID-19; neonate; neonatal ICU; breastfeeding; prematurity; parental bonding; parent-newborn separation	21-May-20	The impact of COVID-19 pandemic on the healthcare of premature babies	European Journal of Midwifery	Editorial	The author discusses the impact of the COVID-19 pandemic on the health of premature and sick infants. Most neonatal ICUs (NICUs) have limited parental access during the pandemic, and restrictions differ from hospital to hospital. Moreover, the author reports that parents have not been provided with an evidence-based explanation for the necessity of keeping parents out of the NICUs. Early separation is harmful to both newborns and parents, since it disrupts the biological and emotional bonding that has developed during gestation. This may lead to significant physical and mental consequences for parents and infants. By keeping mothers isolated from their infants, a reduction in breastfeeding may develop, as supportive techniques, such as skin-to-skin contact and midwifery counseling, may not be possible in the NICU. Importantly, follow-up appointments, therapy, and psychological support services have stopped in many places, as clinics and rehabilitation centers have suspended their operations during lockdown, causing many parents to worry about the consequences to their children's health. Urgent action must be taken to protect parents and newborns, and to prevent any collateral damage to their health.	The author discusses the impact of the COVID-19 pandemic on the health of premature and sick infants. Limited parental access to neonatal ICUs disrupts the biological and emotional bonding between parents and infants. By keeping mothers isolated from their infants, a reduction in breastfeeding may also develop.	Vavouraki E. The impact of COVID-19 pandemic on the healthcare of premature babies. Eur J Midwifery. 2020;4:21. doi:10.18332/ejm/122385.
Neonates, care practices, mother-newborn separation, breastfeeding, discharge, Penn State, USA	21-May-20	Management of Newborns Exposed to Mothers With Confirmed or Suspected COVID-19	Journal of Perinatology	Review Article	Management of neonates born to women with confirmed or suspected COVID-19 is largely center-specific, given local customs and availability of resources. The authors of this report draw upon their limited experience and anecdotal reports from nearby institutions to develop a triage algorithm at the Penn State Hospital at Milton S. Hershey Medical Center that may be useful for other centers anticipating similar surges in cases of exposed newborns. Several care practices that have changed in the COVID-19 era are discussed including the use of antenatal steroids, delayed cord clamping, mother-newborn separation, and breastfeeding in accordance with the recommendations of international organizations like the WHO. Moreover, this paper provides guidance on the most suitable respiratory support for newborns, as well as for the discharge process and beyond.	This paper provides guidance for management of newborns exposed to mothers with confirmed or suspected COVID-19, in the perinatal period.	Amatya S, Corr TE, Gandhi CK, et al. Management of newborns exposed to mothers with confirmed or suspected COVID-19 [published online 2020 May 21]. J Perinatol. doi:10.1038/s41372-020-0695-0
Pregnancy, breastfeeding, breast milk samples, Germany	21-May-20	Detection of SARS-CoV-2 in human breastmilk	The Lancet	Correspondence	Recent investigations show no evidence for SARS-CoV-2 in human breast milk, however sample sizes are small. In this report, authors analyzed milk samples from two nursing mothers who were diagnosed with COVID-19 days after delivery of and room sharing, with each other and with their newborns. Following admission and delivery, four samples from Mother 1 tested negative. By contrast, SARS-CoV-2 RNA was detected in milk from Mother 2 at days 10, 12, and 13; samples taken subsequently	In this report (previously posted as a preprint) of two nursing mothers with COVID-19, both newborns tested positive for SARS-CoV-2 infection within 1-2 weeks of birth. SARS-CoV-2 RNA was only	Groß R, Conzelmann C, Müller JA, et al. Detection of SARS-CoV-2 in human breastmilk. Lancet. doi:10.1016/S0140-6736(20)31181-8

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					were negative. Detection of viral RNA in Mother 2 coincided with mild COVID-19 symptoms and a SARS-CoV-2 positive diagnostic test of Newborn 2. Mother 2 had been wearing a surgical mask since the onset of symptoms and followed safety precautions when handling or feeding the neonate. Whether Newborn 2 was infected by breastfeeding or other modes of transmission remains unclear.	detected in one mother's consecutive breast milk samples.	
Preterm newborn, breastfeeding, breast milk sample, expressed maternal milk, Italy	21-May-20	Lack of Viral Transmission to Preterm Newborn From a COVID-19 Positive Breastfeeding Mother at 11 Days Postpartum	Journal of Medical Virology	Letter to the Editor	This paper reports the case of a mother who presented with clinical symptoms of respiratory tract infection 11 days after the spontaneous delivery of a preterm female newborn (32 weeks + 2 days gestation). Since birth, the newborn was both directly breastfed and fed expressed maternal milk; she also received Kangaroo Mother Care sessions. 11 days after delivery, the mother tested positive for SARS-CoV-2 on RT-PCR of her nasopharyngeal swab. RT-PCR assay of her breast milk samples (pumped at the peak of maternal febrile symptoms) was negative for SARS-CoV-2 allowing the continued provision of nutrition with expressed maternal milk. During hospital stay, the mother and healthcare providers followed hygiene precautions, including wearing surgical masks, hand washing, and using alcohol-based solutions to clean the surfaces. The neonate continued to show normal vital parameters and was discharged. Breast milk contains many components, including immunoglobulins, probiotic organisms, and growth factors that support maturation of the infant's own immune system.	In this case, a nursing mother was diagnosed with COVID-19 11 days postpartum. At the peak of symptoms, her breast milk sample tested negative for SARS-CoV-2 on RT-PCR, thus her newborn continued to be fed with expressed maternal milk.	Perrone S, Giordano M, Meoli A, et al. Lack of viral transmission to preterm newborn from a COVID-19 positive breastfeeding mother at 11 days postpartum [published 2020 May 21]. J Med Virol. doi:10.1002/jmv.26037
Pregnancy, mother-infant dyad, delivery, NICU, breastfeeding, rooming-in, Italy	20-May-20	Management of the Mother-Infant Dyad With Suspected or Confirmed SARS-CoV-2 Infection in a Highly Epidemic Context	Journal of Neonatal and Perinatal Medicine	Article Commentary	During the COVID-19 pandemic, networking among maternity centers and anticipatory planning is essential to organize assistance to mothers and neonates in maternity and neonatal wards. Early identification of SARS-CoV-2 infected mothers, before delivery, allows their management through dedicated protocols and minimizes the risk of transmission for other patients and healthcare providers. Vertical transmission of SARS-CoV-2 cannot be excluded at present and should be ruled out as soon as possible after birth. Rooming in of infected mothers and neonates, provided their good clinical conditions, is not contraindicated based on current knowledge. The choice of breastfeeding should be carefully discussed with parents based on current, evolving scientific evidence.	This summary addresses a number of aspects of mother-infant dyad management during SARS-CoV-2 epidemic.	Pietrasanta C, Pugni L, Ronchi A, et al. Management of the mother-infant dyad with suspected or confirmed SARS-CoV-2 infection in a highly epidemic context [published online 2020 May 20]. J Neonatal Perinatal Med. doi:10.3233/NPM-200478
Pregnancy, neonates, skin-to-skin contact, breastfeeding, perinatal outcomes	19-May-20	Skin-to-Skin Care and COVID-19	Pediatrics	Perspectives	Current American Academy of Pediatrics (AAP) guidelines recommend physical separation of COVID-19 positive women from their infants following delivery, when space allows, unless they choose rooming-in despite being counseled on risk. On the other hand, the WHO's recommendation encourage breastfeeding initiation within an hour of birth and routine newborn care with added emphasis on respiratory and hand hygiene. Neonates could be relatively protected from infection through transplacental maternal IgG, and breastfeeding has known immune benefits in other viral respiratory infections. The author argues that the benefits of postpartum skin-to-skin contact, bonding, and breastfeeding outweigh concerns about infection and the potential benefits of isolation. The most commonly reported perinatal outcomes in this pandemic, for example	The author argues in favor of skin-to-skin contact and breastfeeding over recommendations to physical separate COVID-19 positive mothers and newborns.	Boscia C. Skin-to-Skin Care and COVID-19 [published online ahead of print, 2020 May 19]. Pediatrics. 2020. doi:10.1542/peds.2020-1836

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					premature birth, could be mitigated through greater prenatal support for pregnant women through social services.		
Pregnancy, clinical characteristics, urgent delivery, preterm delivery, neonatal infection, pregestational BMII, Italy	19-May-20	Clinical Findings and Disease Severity in Hospitalized Pregnant Women With Coronavirus Disease 2019 (COVID-19)	Obstetrics & Gynecology	Original Research	This prospective multicenter cohort study includes 77 pregnant women with SARS-CoV-2 infection who were admitted to 12 Italian maternity hospitals between February 23 and March 28, 2020. Of 77 total women, 14 (18%) had severe disease. Two thirds of the patients in the cohort were admitted during the third trimester, and 84% were symptomatic on admission. Eleven patients underwent urgent delivery for respiratory compromise (16%), and six were admitted to the ICU (8%). One woman received extracorporeal membrane oxygenation; no deaths occurred. Preterm delivery occurred in 12% of patients, and nine newborns were admitted to the NICU. Four newborns (three vaginal deliveries, one cesarean delivery) of 57 were diagnosed with SARS-CoV-2 infection in the early postpartum period. For all newborns, rooming-in and breastfeeding were performed. Patients in the severe subgroup had significantly higher pregestational body mass indexes (BMIs) and heart and respiratory rates and a greater frequency of fever or dyspnea on admission compared with women with a non-severe disease evolution.	In this cohort, one in five women hospitalized with COVID-19 delivered urgently for respiratory compromise or were admitted to the ICU. Four newborns tested positive for SARS-CoV-2 infection; rooming-in and breastfeeding were performed.	Savasi VM, Parisi F, Patanè L, et al. Clinical Findings and Disease Severity in Hospitalized Pregnant Women With Coronavirus Disease 2019 (COVID-19) [published online 2020 May 19]. Obstet Gynecol. doi:10.1097/AOG.0000000000003979
Pregnancy, knowledge, attitudes, concerns, breastfeeding safety, Turkey	19-May-20	Near-term Pregnant Women's Attitude Toward, Concern About and Knowledge of the COVID-19 Pandemic	Journal of Maternal Fetal and Neonatal Medicine	Original Article	This cross-sectional survey presents analysis of prospectively collected data, at a single tertiary "Coronavirus Pandemic Hospital" referral center in Turkey, from non-SARS-CoV-2 infected women with a confirmed pregnancy (>30 weeks' gestation). A total of 172 pregnant women (mean age 27.5 ± 5.3 years) were included. Overall, four women refused to participate to the survey (1.9%). Median gestational week and parity were 35 ± 11 weeks and 1 ± 2, respectively. Pregnant women were observed to trust the authorities (65%) and healthcare staff (92.4%), and their respect was increased (82.5%) during the outbreak. Most women (87.2%) comply with self-quarantine rules. Half of the women (52%) reported that they felt vulnerable, and 80% felt concerned. Approximately one-third of the women reported constantly thinking that they might get infected (35.5%) or they might get infected during/following delivery or their newborn might get infected after being born (42%). Half of the women (50%) reported that they either had no idea about or thought that breastfeeding was not safe during the outbreak. About 45% of women were confused or had doubts about whether or not the COVID-19 pandemic would affect their mode of delivery. The majority of women did not know if COVID-19 might cause birth defects (76%) or preterm birth (64.5%). These findings may guide health care providers in developing targeted messages to provide information to pregnant women.	This survey of attitude, concerns, and knowledge of COVID-19 among non-infected pregnant women revealed that most had increased concerns and limited knowledge of pregnancy-related outcomes of COVID-19. Of note, half of women regarded breastfeeding to be safe during the pandemic.	Yassa M, Birol P, Yirmibes C, et al. Near-term pregnant women's attitude toward, concern about and knowledge of the COVID-19 pandemic [published online 2020 May 19]. J Matern Fetal Neonatal Med. doi:10.1080/14767058.2020.1763947
Pregnancy, neonates, perinatal outcomes, vertical transmission, breast milk samples, systematic review	19-May-20	Effects of Coronavirus Disease 2019 (COVID-19) on Maternal, Perinatal and Neonatal Outcomes: A	Ultrasound Obstetrics and Gynecology	Systematic Review	A systematic review, conducted until April 20, 2020, identified a high number of case reports and case series on COVID-19 in pregnancy, but only 24 studies including a total of 324 pregnant women with COVID-19 were included. These comprised 8 consecutive case series, 1 non-consecutive case series, and 15 case reports. In the combined data from the 8 consecutive case series, which included 211/295 (71.5%) cases of laboratory-confirmed and 84/295 (28.5%) cases of clinically diagnosed COVID-19, the maternal age ranged from 20 to 44 years and the gestational age on admission ranged from 5 to 41 weeks. The most common symptoms at presentation were	Despite the increasing number of published studies on COVID-19 in pregnancy, there are insufficient good-quality data to draw unbiased conclusions with regard to the severity of the disease or specific complications of COVID-19 in pregnant women, as well as	Juan J, Gil MM, Rong Z, Zhang Y, Yang H, Poon LC. Effects of coronavirus disease 2019 (COVID-19) on maternal, perinatal and neonatal outcomes: a systematic review

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		Systematic Review			fever, cough, dyspnea/shortness of breath, fatigue and myalgia. The rate of severe pneumonia reported amongst the case series ranged from 0 to 14%, with the majority of cases requiring ICU admission. Almost all cases from the case series had positive chest CT findings. The 6 and 22 cases that had nucleic-acid testing in vaginal mucus and breast milk samples, respectively, were negative for SARS-CoV-2. Only 4 cases of spontaneous miscarriage or abortion were reported. 219/295 women had delivered at the time of reporting (range 28-41 gestational weeks), and the majority of these had Cesarean section. Apgar scores at 1 and 5 min ranged from 7 to 10 and 7 to 10, respectively. Only 8 neonates had birth weight <2500g, and nearly one-third of cases were transferred to the NICU. There was 1 case each of neonatal asphyxia and neonatal death. In 155 neonates that had nucleic-acid testing in throat swabs, all but 3 cases were negative for SARS-CoV-2. In the non-consecutive case series, describing 9 cases of severe COVID-19, there were 7 maternal deaths, 4 intrauterine fetal deaths (1 with twin pregnancy) and 2 neonatal deaths (twin pregnancy). In the case reports, describing a total of 20 pregnant patients with COVID-19, 2 maternal deaths, 1 neonatal death and 2 cases of neonatal SARS-CoV-2 infection were reported.	vertical transmission, perinatal and neonatal complications.	[published online 2020 May 19]. Ultrasound Obstet Gynecol. doi:10.1002/uog.22088
Preterm infant, ARDS, host inflammatory response, remdesivir, horizontal transmission, UK	19-May-20	Horizontal transmission of severe acute respiratory syndrome coronavirus 2 to a premature infant: multiple organ injury and association with markers of inflammation	The Lancet Child & Adolescent Health	Case Report	A male infant, born at 27 weeks' gestation, presented to the emergency department (ED) at 8 weeks of age with a 2-day history of poor feeding, sneezing, and dyspnea. 10 days before presentation, the infant had been discharged from the neonatal unit after recovering from neonatal respiratory distress syndrome; he had been fed with maternal expressed breast milk from day 3 of life. There were no cases of COVID-19 on the neonatal unit before or following discharge, members of the infant's household (parents and a 4-year-old sibling) were asymptomatic, and there were no other reported contacts. On initial assessment in the ED, the infant was in respiratory failure and presumed septic shock; resuscitation and respiratory support were commenced. Quantitative RT-PCR showed that the patient's nasopharyngeal swab sample was positive for SARS-CoV-2. A blood culture was also positive for Staphylococcus epidermidis, at which point IV vancomycin was initiated as targeted treatment. The infant became increasingly difficult to ventilate, and repeat chest X-rays showed worsening bilateral airspace opacification consistent with acute respiratory distress syndrome. Along with antimicrobial treatment, remdesivir was prescribed on compassionate grounds and administered intravenously. Over the following days, there was a gradual improvement in respiratory function, and the infant was weaned from all respiratory support on day 24. Respiratory improvement in this infant appeared to be associated with a decrease in IL-6 concentration, ferritin, and lactate dehydrogenase, rather than a decrease in viral load, suggesting that the host pulmonary inflammatory response might have been important with regard to respiratory failure.	This report presents the first detailed description, to the authors' knowledge, of a premature infant with severe SARS-CoV-2 infection in whom longitudinal assessment of multiple organ injury, blood inflammatory markers, and viral load are described.	Cook J, Harman K, Zoica B, et al. Horizontal transmission of severe acute respiratory syndrome coronavirus 2 to a premature infant: multiple organ injury and association with markers of inflammation [published online 2020 May 19]. Lancet Child & Adol Health. doi:10.1016/S2352-4642(20)30166-8
Pregnancy, neonates, labor, obstetric	18-May-20	Management of covid-19: A Practical	Journal of Maternal Fetal and	Other Articles	At the time of writing, there have been no confirmed obstetric cases of COVID-19 in Nigeria; the only confirmed case of COVID-19 in a child in Nigeria is a 6-week-old infant who returned from the UK with the mother. As	These guidelines on obstetric and newborn management during the COVID-19 pandemic are intended	Ezenwa BN, Fajolu IB, Akinajo OR, et al. Management of covid-

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management, breastfeeding, Nigeria, sub-Saharan Africa		Guideline for Maternal and Newborn Health Care Providers in Sub-Saharan Africa	Neonatal Medicine		the rate of obstetric cases will likely rise in Nigeria and other African countries, pregnant women will have to be attended to in facilities that are distinct from the COVID-19 isolation centers in the country. This guideline prepares and equips clinicians working in the maternal and newborn health care sectors in the sub-region to manage COVID-19 during pregnancy and childbirth. With regard to breastfeeding, the authors note that the practice to support, promote and protect breastfeeding should continue until there is sufficient evidence to advise otherwise. They recommend that the frequency of direct breastfeeding should be reduced to one to two times daily, and other feeds should be expressed breast milk, fed orally in order to limit mother-newborn contact and improve lactation.	for use by maternal and newborn care providers in sub-Saharan Africa.	19: a practical guideline for maternal and newborn health care providers in Sub-Saharan Africa [published online 2020 May 18]. J Matern Fetal Neonatal Med. doi:10.1080/14767058.2020.1763948
Vertical transmission, transplacental transmission, pregnancy, neonates, Italy	18-May-20	Vertical transmission of coronavirus disease 2019: severe acute respiratory syndrome coronavirus 2 RNA on the fetal side of the placenta in pregnancies with coronavirus disease 2019–positive mothers and neonates at birth	American Journal of Obstetrics & Gynecology MFM	Research Letter	Vertical transmission of SARS-CoV-2 is still a controversial issue and studies on transplacental transmission correlations are limited. This study included 22 pregnant women who received a diagnosis of COVID-19 in their third trimester of pregnancy and delivered at the Papa Giovanni XXIII Hospital in Bergamo, Italy, between March 5 - April 21, 2020. Nasopharyngeal (NP) swabs from each mother and newborn were analyzed via RT-PCR, along with placental biopsy samples. Of the 22 neonates born from COVID-19–positive mothers, 2 tested positive (9%); both placental samples had SARS-CoV-2 RNA in the syncytiotrophoblasts signifying the presence of the virus on the fetal side of the placenta (the authors provide images of these placental samples alongside control samples for reference). The first neonate was delivered vaginally and stayed in the mother's room while the mother wore a surgical mask. Skin-to-skin contact was not allowed, except for breastfeeding. The second neonate was delivered via C-section, immediately separated from the mother, and placed in the neonatal-ICU. No complications were observed for either cases. These findings support the possibility of vertical transmission of SARS-CoV-2 from mother to fetus in utero.	To determine the possibility of vertical transmission, this study included 22 pregnant women who received a diagnosis of COVID-19 in their third trimester of pregnancy and delivered in Bergamo (Italy). SARS-CoV-2 RNA was found in NP swabs of 2 neonates and in the fetal side of placental samples from their mothers, indicating the possibility of vertical transmission from mother to fetus in utero.	Patanè L, Morotti D, Giunta MR, et al. Vertical transmission of coronavirus disease 2019: severe acute respiratory syndrome coronavirus 2 RNA on the fetal side of the placenta in pregnancies with coronavirus disease 2019-positive mothers and neonates at birth [published online, 2020 May 18]. Am J Obstet Gynecol MFM. 2020;2(3):100145. doi:10.1016/j.ajogmf.2020.100145
Pregnancy, neonates, perinatal society, breastfeeding, guidelines	18-May-20	SARS-CoV-2 in Pregnancy: A Comprehensive Summary of Current Guidelines	Journal of Clinical Medicine	Review	International perinatal societies and institutions have released guidelines for the care of pregnant patients and their fetuses with COVID-19. This review summarizes these current guidelines in a comprehensive review for patients, healthcare workers, and healthcare institutions. 15 papers from 10 societies, through a literature search of society websites and their journal publications, were included up until April 20, 2020. Recommendations specific to antepartum, intrapartum, and postpartum care were abstracted from the publications and summarized in Tables. The summary of guidelines for the management of COVID-19 in pregnancy across different societies is fairly consistent, with some variation in the strength of recommendations. Currently, there is no definitive evidence to suggest vertical transmission of SARS-CoV-2, thus rooming-in and breastfeeding are still encouraged, unless the mother is acutely ill.	Recommendations for the care of pregnant patients and newborns with COVID-19 are summarized from 10 international perinatal societies.	Narang K, Ibirogba ER, Elrefaei A, et al. SARS-CoV-2 in Pregnancy: A Comprehensive Summary of Current Guidelines. J Clin Med. 2020;9(5):E1521. doi:10.3390/jcm9051521
Neonates, pregnancy, clinical presentation,	18-May-20	COVID 19 in Neonates	Journal of Maternal Fetal and	Review Article	There is limited evidence to support the possibility of vertical transmission. Clinical presentation in neonates is nonspecific, commonly observed as temperature instability, respiratory distress, poor feeding, lethargy, vomiting and diarrhea. A suspect case is defined as a neonate born to the mother	This article summarizes current evidence on clinical presentation of COVID-19 in neonates, as well as recommendations for delivery	Kallem VR, Sharma D. COVID 19 in neonates [published online 2020 May 18]. J Matern

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breastfeeding, isolation			Neonatal Medicine		with a history of 2019-nCoV infection between 14 days before delivery and 28 days after delivery, or as a neonate directly exposed to those infected with 2019-nCoV. The authors recommend that suspected COVID-19 positive mothers and their newborns should be kept together in a designated isolation room. Mothers can breastfeed their newborns with proper hand and breast hygiene precautions. For confirmed COVID-19 positive mothers, the authors recommend that neonates should be isolated immediately after delivery, if facilities for isolation are available. In these cases, breastfeeding can resume once the mother becomes asymptomatic and two consecutive maternal swabs, separated by at least 24 hours, are negative.	room and postnatal management of neonates born to suspected or confirmed COVID-19 positive mothers.	Fetal Neonatal Med. doi:10.1080/14767058.2020.1759542
Neonates, pregnancy, clinical characteristics, mild infection, USA	17-May-20	Neonatal Coronavirus 2019 (COVID-19) Infection: A Case Report and Review of Literature	Cureus	Case Report	This report presents a case of neonatal infection in New York, USA. A 22-day-old, previously healthy, full-term neonate was hospitalized after presenting with a one-day history of fever and poor feeding. Routine neonatal sepsis evaluation was negative. SARS-CoV-2 PCR testing was obtained, given rampant community transmission, which returned positive. There were no other laboratory or radiographic abnormalities. The infant recovered completely and was discharged home in two days once his feeding improved (the child was exclusively breastfed). The family was advised to self-quarantine to prevent the transmission of COVID-19. The hypothesized mode of transmission was horizontal spread from his caregivers. This case highlights the milder presentation of COVID-19 in otherwise healthy, full-term neonates. COVID-19 must be considered in the evaluation of a febrile infant. Infants and children may play an important role in the transmission of COVID-19 in the community. This report also provides a review of 11 published cases of neonatal COVID-19 and their clinical characteristics.	This report presents a mild case of neonatal SARS-CoV-2 infection and a review of published cases of neonatal COVID-19, confirming observations of milder infection in this population.	Dumpa V, Kamity R, Vinci AN, Noyola E, Noor A. Neonatal Coronavirus 2019 (COVID-19) Infection: A Case Report and Review of Literature. Cureus. 2020;12(5):e8165. Published 2020 May 17. doi:10.7759/cureus.8165
Twin pregnancy, ARDS, emergency cesarean section, premature delivery, USA	16-May-20	Novel coronavirus-related acute respiratory distress syndrome in a patient with twin pregnancy: A case report	Case Reports in Women's Health	Case Report	A 39-year-old woman (gravida 1, para 0) presented at 27 weeks' gestation with nasal congestion and dry cough for 7 days. Her physical examination was benign, and laboratory studies were unremarkable. A PCR test was positive for SARS-CoV-2, and a chest CT scan showed bilateral multi-focal ground-glass opacities. A fetal non-stress test was reassuring. During her hospital stay, she developed progressively worsening respiratory failure that progressed to acute respiratory distress syndrome requiring mechanical ventilation. She then suffered from sudden hypoxemia and hemodynamic collapse, on maximal ventilatory support, prompting an emergency cesarean section at bedside, which led to rapid stabilization. Both of the twins were born prematurely, and one tested positive for SARS-CoV-2. Following birth, the twins were transferred to the NICU and were not breast fed.	In this case of acute respiratory distress syndrome due to SARS-CoV-2 in a pregnant patient, oxygenation status dramatically improved after delivery of twins; one twin tested positive for SARS-CoV-2 72h after birth.	Mehta H, Ivanovic S, Cronin A, et al. Novel coronavirus-related acute respiratory distress syndrome in a patient with twin pregnancy: A case report [published online 2020 May 16]. Case Rep Women's Health. doi:10.1016/j.crwh.2020.e00220
Children, neonates, epidemiology, pathogenesis, diagnosis, management, breastfeeding, China	15-May-20	Coronavirus Disease 2019 (COVID-19) in Neonates and Children From China: A Review	Frontiers in Pediatrics	Review Article	This review summarizes current understanding of SARS-CoV-2 infection in neonates and children from January 24 to May 1, 2020 using experience from China. Epidemiology, pathogenesis, diagnosis, and management of COVID-19 in children and neonates are presented. Given that symptoms of COVID-19 in children and neonates are atypical, and transmission within family clusters is common, more effort should be made to protect this high-risk population. Although there is still no direct evidence of vertical transmission, the authors argue that rescue of newborns of infected pregnant women in delivery should not be delayed. The authors also	A review of COVID-19 in children and neonates, based primarily on Chinese experience and literature, is presented.	Yu Y, Chen P. Coronavirus Disease 2019 (COVID-19) in Neonates and Children From China: A Review [published online 2020 May 15]. Front Pediatr.

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					recommend avoiding breastfeeding if a pregnant woman or newborn is diagnosed or suspected to have SARS-CoV-2 infection.		doi:10.3389/fped.2020.00287
Pregnancy, neonatal infection, vertical transmission	15-May-20	Is SARS-CoV-2 Vertically Transmitted?	Frontiers in Pediatrics	Review Article	Few studies on the vertical transmission of SARS-CoV-2 are found in the literature. In all case reports and case series, the mothers' infection occurred in the third trimester of pregnancy, there were no maternal deaths, and most neonates had a favorable clinical course. Viral RNA was not detected in neonatal nasopharyngeal swab samples at birth, in the placenta, in the umbilical cord, in the amniotic fluid, in the breast milk or in the maternal vaginal swab samples in any of these articles. Only three papers reported neonatal SARS-CoV-2 infection, but there is a bias that positive pharyngeal swab samples were collected at 36 hours and on the 2nd, 4th, and 17th days of life (the possibility of nosocomial infection cannot be ruled out). The possibility of intrauterine infection has been based mainly on the detection of IgM and IL-6 in the neonates' serum. In conclusion, to date, no convincing evidence has been found for vertical transmission of SARS-CoV-2.	This mini-review does not find convincing evidence of SARS-CoV-2 vertical transmission in existing literature.	Simões e Silva AC, Leal CRV. Is SARS-CoV-2 Vertically Transmitted? [published online 2020 May 15]. Front Pediatr. doi:10.3389/fped.2020.00276
Breastfeeding, WHO guidelines, human milk bank, milk donors, infection control, Brazil	15-May-20	Speech Therapy, Breastfeeding and COVID-19: Information to Speech Therapist	Codas	Letter to Editor	This report describes current evidence on potential SARS-CoV-2 transmission in breast milk, breastfeeding guidelines by major international organizations, including the WHO, and infection control measures for human milk banks and donors. The Brazilian Society of Pediatrics has supported the maintenance of breastfeeding in mothers with COVID-19, given the current evidence. In addition, speech therapists have an active, positive role in the guidance for breastfeeding, thus should follow new recommendations.	Breastfeeding guidelines by major international organizations and recommendations for infection control measures for human milk donation are summarized in this report.	Miranda VSG, Rech RS, Maahs MAP, Berbert MCB, Almeida ST. Speech therapy, breastfeeding and COVID-19: information to speech therapist. Codas. 2020;32(3):e20200124. doi:10.1590/2317-1782/20192020124
Pregnancy, neonates, NICU, expert guidelines, Brazil	15-May-20	Expert Recommendations for the Care of Newborns of Mothers With COVID-19	Clinics (Sao Paolo)	Review Article	This article presents expert recommendations for managing care of newborns of mothers with suspected or diagnosed COVID-19. The consensus was developed by five experts in neonatal intensive care working at a reference university hospital in Brazil for the care of pregnant women and newborns with COVID-19. Despite the lack of scientific evidence regarding the potential for vertical transmission, it is important to elaborate the lines of care by specialists from hospitals caring for COVID-19 cases to guide multidisciplinary teams and families diagnosed with the disease or involved in the care of pregnant women and newborns in this context. Recommendations for neonatal care consider personal protective equipment and insulation precautions, assistance in the delivery room, newborn transport and ICU admission, clinical evaluation of newborns, breastfeeding (in support of breast milk expression), viral testing of newborns, visitation to hospitalized newborns, hospital discharge, and home isolation of mothers with COVID-19.	A consensus of experts in Brazil developed recommendations for the care of newborns born to mothers with suspected or confirmed COVID-19.	Carvalho WB, Gibelli MABC, Krebs VLJ, Calil VMLT, Johnston C. Expert recommendations for the care of newborns of mothers with COVID-19. Clinics (Sao Paulo). 2020;75:e1932. doi:10.6061/clinics/2020/e1932

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Pregnancy, maternal and neonatal outcomes, cesarean section, vertical transmission, breastfeeding	15-May-20	Impact of COVID-19 infection on maternal and neonatal outcomes: a review of 287 pregnancies	medRxiv	Preprint (not peer reviewed)	This review identified all articles, without language limitation, on pregnancies affected by COVID-19, between October 2019 and Apr 30, 2020. Within 28 articles identified, data on 287 pregnant women with COVID-19 from 6 countries were assessed. Most pregnant women were in their third trimester, and 102 (35.5%) cases were symptomatic at the time of admission. Common onset symptoms, abnormal laboratory findings, and chest CT patterns were fever (51.5%), lymphocytopenia (67.9%), and multiple ground-glass opacities (78.5%) respectively. 93% of all deliveries were performed via cesarean section. No maternal mortality and 3 % ICU admission were reported. Vertical transmission was not reported but its possibility was suggested in three neonates. One neonatal death, one stillbirth, and one abortion were reported. In 60 cases, where newborn feeding was reported, all newborns were fed with formula.	This review of articles on pregnancy and COVID-19 found minimal adverse maternal and neonatal outcomes. Data are limited on viral transmission in utero, during vaginal childbirth and breastfeeding, as well as the effects of COVID-19 on first and second trimester pregnancies.	Azarkish F, Janghorban R. Impact of COVID-19 infection on maternal and neonatal outcomes: a review of 287 pregnancies [published online 2020 May 15]. medRxiv. doi:10.1101/2020.05.09.20096842
Pregnancy, newborn triage, preterm birth, delivery room preparedness, New York, USA	14-May-20	Delivery Room Preparedness and Early Neonatal Outcomes During COVID19 Pandemic in New York City	Pediatrics	Review	In this prospective study, all pregnant women admitted to labor and delivery were tested by SARS-CoV-2 PCR, obtained from a nasopharyngeal swab, between March 22 and April 15, 2020 at New York Presbyterian Weill Cornell Medicine. Of 326 deliveries, 31 (9.5%) mothers tested positive for SARS-CoV-2: 15 (48%) were asymptomatic, and 16 (52%) were symptomatic. All newborns initially triaged to the well-baby nursery (n=29) tested negative for SARS-CoV-2 and were breastfed and cared for in the mother's room. Two premature newborns were triaged to the NICU where they received continuous positive pressure ventilation, and after testing negative for SARS-CoV-2, both were moved out of isolation.	The authors stress the importance of awareness of the mother's SARS-CoV-2 status and rapid turnaround of testing in delivery room preparedness.	Perlman J, Oxford C, Chang C, Salvatore C, Di Pace J. Delivery Room Preparedness and Early Neonatal Outcomes During COVID19 Pandemic in New York City [published online 2020 May 14]. Pediatrics. doi:10.1542/peds.2020-1567
Neonatal care, isolation, breastfeeding, recommendations, WHO	14-May-20	Caring for Newborns Born to Mothers With COVID-19: More Questions Than Answers	Pediatrics	Commentary	The uncertainty around neonatal SARS-CoV-2 infection risk has led to notable variations in care practices for newborns born to mothers with COVID-19. While there is some agreement, such as use of precautions for delivery room resuscitation or isolation of exposed infants requiring intensive care, approaches to other aspects of care differ widely, including location of care and breastfeeding for term infants that are well and born to mothers without severe symptoms. Recommendations on these areas from several national-level organizations, as well as the WHO, are summarized in this report. Critical and time-sensitive needs for research around neonatal care and outcomes are also outlined: (1) larger sample sizes reflecting diverse populations; (2) descriptions of care practices with ability to assess comparative effectiveness of different approaches; (3) follow-up information on maternal and neonatal outcomes after birth hospitalization.	This report summarizes recommendations for neonatal care, from national and international organizations, and outlines areas for further research.	Gupta M, Zupancic JAF, Pursley DM. Caring for Newborns Born to Mothers with COVID-19: More Questions than Answers [published online 2020 May 14]. Pediatrics. doi:10.1542/peds.2020-001842
Neonates, NICU preparedness, CDC, New York City	14-May-20	Neonatal Intensive Care Unit Preparedness for the Novel Coronavirus Disease-2019 Pandemic: A New York City	Current Problems in Pediatric and Adolescent Health Care	Full Length Article	There are limited data on the effect of COVID-19 in fetal life, and among neonates after birth. Therefore, there is an urgent need for proactive preparation to combat COVID-19 and safeguard patients, families, and healthcare personnel. This review article is based on the Centers for Disease Control and Prevention's (CDC) current recommendations for COVID-19 and its adaptation to local resources at a hospital in New York City. This article aims to provide basic consolidated guidance and checklists for clinicians in neonatal intensive care units. Recommendations consider risk of vertical transmission, preparation before delivery, preparation in the delivery room,	This article consolidates guidance on NICU preparedness for the COVID-19 pandemic, based on CDC recommendations and experience at a New York City hospital.	Verma S, Lumba R, Lighter JL, et al. Neonatal Intensive Care Unit Preparedness for the Novel Coronavirus Disease-2019 Pandemic: A New York City Hospital

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		Hospital Perspective			newborn transport, mother and newborn contact, NICU care, horizontal transmission to newborns, breastfeeding, communication with caregivers, and hospital discharge.		Perspective [published online 2020 May 14]. Curr Probl Pediatr Adolesc Health Care. doi:10.1016/j.cppeds.2020.100795
Pregnancy, childbirth, neonates, quality of care, systematic review	14-May-20	Improving the Quality of Care in Pregnancy and Childbirth With Coronavirus (COVID-19): A Systematic Review	The Journal of Maternal-Fetal & Neonatal Medicine	Review Article	A systematic review of electronic databases identified 29 papers on pregnancy and COVID-19, published in English, prior to March 25, 2020. The results of the review of existing literature are presented in the following nine sections: Symptoms of the COVID-19 in pregnancy, Pregnancy management, Delivery Management, Mode of delivery, Recommendations for health care provider in delivery, Neonatal outcomes, Neonatal care, Vertical Transmission, and Breastfeeding. The authors conclude that improving quality of care in maternal health, as well as educating, training, and supporting healthcare providers in infection management, must be prioritized.	This systematic review aims to improve quality of care during pregnancy and childbirth for mothers and newborns with COVID-19.	Abdollahpour S, Khadivzadeh T. Improving the quality of care in pregnancy and childbirth with coronavirus (COVID-19): a systematic review [published online 2020 May 14]. J Matern Fetal Neonatal Med. doi:10.1080/14767058.2020.1759540
Pregnancy, neonatal infection, vertical transmission, placental pathology, Canada	14-May-20	Probable Congenital SARS-CoV-2 Infection in a Neonate Born to a Woman With Active SARS-CoV-2 Infection	Canadian Medical Association Journal	Original Article	A 40-year-old woman (gravida 2, para 1) was admitted to a tertiary hospital in Toronto, Ontario with history of gestational diabetes and frequent bacterial infections. The patient presented with myalgia, decreased appetite, fatigue, dry cough, and fever. A nasopharyngeal swab was positive for SARS-CoV-2 via RT-PCR testing. The woman did not need any respiratory support at the time of birth. A semi-urgent cesarean delivery was performed owing to worsening coagulopathy and reducing platelet count. Delayed cord clamping was not performed, and the neonate was immediately separated. All 3 nasopharyngeal swabs, obtained from the neonate on the day of birth, day 2, and day 7 were positive for SARS-CoV-2; neonatal plasma tested positive on day 4, and stool was positive on day 7. At 36 hours of age, repeated episodes of hypoglycemia and feeding difficulties necessitated the newborn's admission to the NICU. He was transferred back to his mother's room, and both were discharged home on day 4 after birth. On histopathologic examination, the placenta showed multiple areas of infiltration by inflammatory cells, consistent with chronic histiocytic intervillositis, and extensive early infarction. Placental swabs (both maternal and fetal sides) and breast milk also tested positive for SARS-CoV-2. The authors stated that the potential for respiratory secretion contamination of breast milk cannot be ruled out but was minimized by breast hygiene and cleaning before specimen collection.	This case presents evidence of possible congenital transmission of SARS-CoV-2, with positive placental and breast milk findings described. The mother and newborn did not suffer any complications from COVID-19.	Kirtsman M, Diambomba Y, Poutanen SM, et al. Probable congenital SARS-CoV-2 infection in a neonate born to a woman with active SARS-CoV-2 infection [published online 2020 May 14]. CMAJ. doi:10.1503/cmaj.200821
Infants, febrile, feeding difficulty, New York	13-May-20	A Case Series of the 2019 Novel Coronavirus (SARS-CoV-2) in Three Febrile Infants in New York	Pediatrics	Case Report	This case report describes three febrile infants, less than two months of age, admitted to a large, tertiary care children's hospital in New York and subsequently found to be infected with SARS-CoV-2. All three patients presented with fever, feeding difficulty, lymphopenia, and thrombocytosis on laboratory evaluation. Two of the three patients were found to have neutropenia and two had known exposures to sick contacts. All patients had	To the authors' knowledge, this report describes three of the youngest patients to be reported with SARS-CoV-2 in the United States.	Feld L, Belfer J, Kabra R, et al. A Case Series of the 2019 Novel Coronavirus (SARS-CoV-2) in Three Febrile Infants in New York [published online,

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					unremarkable hospital courses; two required intravenous fluid support due to poor feeding. All were discharged without complications.		2020 May 13]. Pediatrics. doi:10.1542/peds.2020-1056
COVID-19; kangaroo mother care; neonatal health	12-May-20	The COVID-19 pandemic and kangaroo mother care: What should we do?	European Journal of Midwifery	Editorial	This editorial briefly discusses the benefits of kangaroo mother care (KMC), and emphasizes its continued importance to neonatal health in the context of the COVID-19 pandemic. KMC is a model of care that offers an alternative to the incubator for preterm newborns, and is recommended by the WHO in both developed and developing countries as soon as the premature neonate is clinically stabilized. However, rates of KMC may have suffered as a result of the COVID-19 pandemic. Clinical evidence shows KMC can improve newborns' neurodevelopment outcomes, stabilize preterm newborn's physiological function, and decrease maternal distress following birth. KMC can also aid in the initiation of exclusive breastfeeding. The author highlights that human milk is a unique dynamic nutrition source for the newborn during the first 6 months of life, directly contributing to the newborn's innate immunity by shaping gut microbiota and milk oligosaccharides. The WHO recommends that mothers and newborns should not be separated, even in cases of maternal SARS-CoV-2 infection. Therefore, KMC should be supported even in cases of suspected or confirmed COVID-19, given the use of PPE and disinfection of used surfaces. The author concludes by urging clinicians, midwives and policy makers to prioritize neonatal care throughout this pandemic, and as such consider KMC in the neonatal wards with the use of all necessary precautions.	This editorial briefly discusses the benefits of kangaroo mother care (KMC), and emphasizes its continued importance to neonatal health in the context of the COVID-19 pandemic.	Hakimi S. The COVID-19 pandemic and kangaroo mother care: What should we do?. Eur J Midwifery. 2020;4:17. Published 2020 May 12. doi:10.18332/ejm/121095
Breastfeeding, transmission risk, WHO, maternal counselling	12-May-20	WHO Frequently Asked Questions: Breastfeeding and COVID-19 For health care workers	Journal of Human Lactation	Clinical Recommendations	The World Health Organization has published new responses to frequently asked questions regarding COVID-19 and breastfeeding to help providers counsel mothers and families. The key messages include the following: I. Breastfeeding and skin-to-skin contact significantly reduce the risk of death in newborns and young infants and provide immediate and lifelong health and development advantages. Breastfeeding also reduces the risk of breast and ovarian cancer for the mother. II. Newborns and infants are at low risk of COVID-19 infection. Among the few cases of confirmed COVID-19 infection in young children, most have experienced only mild or asymptomatic illness. III. The numerous benefits of breastfeeding substantially outweigh the potential risks of transmission and illness associated with COVID-19. IV. Active COVID-19 has not been detected in the breastmilk of any mother with confirmed/suspected COVID-19 and there is no evidence so far that the virus is transmitted through breastfeeding.	The WHO developed responses to frequently asked questions regarding breastfeeding and COVID-19 and concludes that the benefits of breastfeeding outweigh the potential risks of transmission to the newborn.	WHO Frequently Asked Questions : Breastfeeding and COVID-19 For health care workers. J Hum Lact. 2020;36(3):392-396. doi:10.1177/0890334420939556
Pregnancy, neonate, vaginal delivery, fetal monitoring, mechanical breast stimulation, Portugal	11-May-20	Vaginal Delivery in a Woman Infected With SARS-CoV-2 - The First Case Reported in Portugal	European Journal of Obstetrics & Gynecology and Reproductive Biology	Correspondence	On March 17, 2020, a Caucasian 31-year-old woman with 38 weeks' gestation was admitted to hospital in Porto, Portugal, complaining of mild painful uterine contractions for a few hours. Since her husband had been diagnosed with COVID-19 and hospitalized on March 12, she was treated as a suspected case upon admission. SARS-CoV-2 was detected by RT-PCR analysis on nasal and oropharyngeal swabs. Following an operative vaginal delivery, with fetal vacuum extraction, the umbilical cord was immediately clamped without neonate-maternal contact. The newborn was separated from the mother immediately after birth, and repeated newborn nasal and	This case describes an uncomplicated vaginal delivery, with continuous electronic fetal monitoring, in a woman with COVID-19 without severe disease; the neonate tested negative for SARS-CoV-2.	Polónia-Valente R, Moucho M, Tavares M, Vilan A, Montenegro N, Rodrigues T. Vaginal delivery in a woman infected with SARS-CoV-2 - The first case reported in Portugal

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					oropharyngeal RT-PCR tests were negative for SARS-CoV-2. Symptomless, the mother was discharged first and began mechanical breast stimulation, in order to breastfeed soon after her COVID-19 recovery.		[published online 2020 May 11]. Eur J Obstet Gynecol Reprod Biol. doi:10.1016/j.ejogrb.2020.05.007
Late pregnancy, neonates, convalescent mothers, Italy	11-May-20	Report of a Series of Healthy Term Newborns From Convalescent Mothers With COVID-19 (only abstract available when posted on May 22, 2020)	Acta Biomedica	Correspondence/Case Reports	This case series reports four neonates whose mothers had recovered from COVID-19 (RT-PCR assays on nasopharyngeal swabs turned negative). All four women were diagnosed in the third trimester of pregnancy at Parma Hospital, Italy in March and April 2020. All neonates were delivered (3 vaginal delivery, 1 elective cesarean section) at term in good conditions without evidence of congenital COVID-19 infection on nasopharyngeal swabs, and all were breastfed.	Findings from this series indicate that adverse effects on fetuses from pregnancies complicated by COVID-19; four healthy neonates were born to mothers recovering from SARS-CoV-2 infection in the third trimester of pregnancy.	Perrone S, Deolmi M, Giordano M, et al. Report of a series of healthy term newborns from convalescent mothers with COVID-19. Acta Biomed. 2020;91(2):251-255. Published 2020 May 11. doi:10.23750/abm.v91i2.9743
Postnatal care, neonates, lockdown, breastfeeding, France	11-May-20	Post-natal Follow-Up for Women and Neonates During the COVID-19 Pandemic: French National Authority for Health Recommen-dations	Journal of Gynecology Obstetrics and Human Reproduction	Guidelines	The French National Authority for Health (HAS) sets forward general recommendations designed to ensure continuity of care for pregnant women during lockdown. Rapid responses were developed based on interviews with expert organizations and available knowledge at the time of their publication. Topics discussed include discharge after childbirth, anticipating possible infection of the newborn, adapting postnatal follow-up at home, maternal and child monitoring parameters, surveillance in the case of early discharge (before 48h after childbirth), neonatal screening tests, support for private practice care, and specific considerations for COVID positive mothers and newborns. The HAS supports breastfeeding in the case of COVID positive mothers, with proper hygiene precautions.	The French National Authority for Health sets recommendations for follow-up postnatal care for mothers and newborns during lockdown, with specific considerations for COVID positive dyads.	Vivanti AJ, Deruelle P, Picone O, et al. Post-natal follow-up for women and neonates during the COVID-19 pandemic: French National Authority for Health recommendations [published online 2020 May 11]. J Gynecol Obstet Hum Reprod. doi:10.1016/j.jogoh.2020.101805
Pregnancy, neonates, maternal outcomes, delivery, vertical transmission, breastfeeding	10-May-20	COVID-19 and Pregnancy - Where Are We Now? A Review	Journal of Perinatal Medicine	Review	Currently, there is no evidence that pregnant women are more susceptible to SARS-CoV-2 infection than the general population. Premature rupture of membranes, premature labor and fetal distress have been observed in women with COVID-19 in their third trimester. There are no data on complications of SARS-CoV-2 infection before the third trimester. COVID-19 infection should not be the only indication for delivery but can indicate surgical delivery if necessary to improve maternal oxygenation; decision on delivery mode should be individualized. Vertical transmission of SARS-CoV-2 from the pregnant woman to the fetus has not been proven. As the virus is absent in breast milk, the experts encourage breastfeeding for neonatal acquisition of protective antibodies.	Current evidence on COVID-19 in pregnancy, neonatal outcomes, and breastfeeding are reviewed.	Rajewska A, Mikołajek-Bedner W, Lebdowicz-Knul J, Sokołowska M, Kwiatkowski S, Torbé A. COVID-19 and pregnancy - where are we now? A review [published online 2020 May 10]. J Perinat Med. doi:10.1515/jpm-2020-0132

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Infant, Kawasaki Disease, CRP, IVIG, India	10-May-20	Novel Coronavirus Mimicking Kawasaki Disease in an Infant	Indian Pediatrics	Clinical Case Letter	A 4-month-old infant presented with a 4-day history of high-grade fever and developed an erythematous macular rash over the trunk, palm and sole on the second day. On admission, the child was hemodynamically stable and breastfeeding normally but had red lips, congested throat, and small cervical lymphadenopathy. Antibiotic therapy was initiated, but fever continued until the third day when he developed non-purulent conjunctivitis with left subconjunctival hemorrhage. Fever subsided 24 hours after IV immunoglobulin therapy was started, following when his SARS-CoV-2 RT-PCR test revealed a positive result. Over the course of hospitalization, a rise of C-reactive protein was observed without any neutrophilia, lymphopenia, or organ dysfunction.	This case of Kawasaki-like disease is a novel presentation among young children in India, still in the early stage of the pandemic.	Acharyya BC, Acharyya S, Das D. Novel Coronavirus Mimicking Kawasaki Disease in an Infant [published online 2020 May 22]. Indian Pediatr. S097475591600184.
Breastfeeding, breast milk, immune system development, WHO	10-May-20	The Importance of Continuing Breastfeeding During COVID-19: In Support to the WHO Statement on Breastfeeding During the Pandemic	The Journal of Pediatrics	Editorial	This commentary draws upon a statement and recommendations recently issued by the Regional Office for Europe of the WHO with the contribution of main European pediatric organizations. According to the WHO, mothers with suspected or confirmed COVID-19 can breastfeed their newborns as long as they take appropriate precautions. Breast milk encloses various antimicrobial substances, anti-inflammatory components and factors that promote the development of the immune system and reduce the occurrence of respiratory tract infections. There is no evidence to date to suggest the novel coronavirus can pass to infants through breast milk, although the possibility cannot be ruled out.	This editorial draws upon WHO recommendations to provide guidance in support of breastfeeding and related safety measures during the COVID-19 pandemic	Williams J, Namazova-Baranova L, Weber M, et al. The importance of continuing breastfeeding during COVID-19: in support to the WHO statement on breastfeeding during the pandemic [published online 2020 May 10]. J Pediatr. doi:10.1016/j.jpeds.2020.05.009
Nutritional status, food insecurity, routine nutrition services, micronutrient supplementa-tion, vulnerable populations	10-May-20	COVID-19 Pandemic - Are We Heading From Health Crisis Towards An Unprecedented Nutrition Crisis?	Current Topics in Medicinal Chemistry	Editorial	The persisting COVID-19 pandemic will have long-lasting effects on the masses i.e. on nutritional status, health, economies and the global food chain. Necessary steps to maintain and promote healthy nutritional status include effective integration of nutrition-supportive measures into COVID-19 action plans, while safeguarding prevailing nutrition programs, particularly for vulnerable populations (children, pregnant women, and the elderly). In addition, awareness must be generated through mobile phone surveys and nutrition counselling through media, regarding the importance of high-quality diets, appropriate infant and young child feeding practices, optimal breastfeeding techniques, and dietary diversity. Keeping in mind the predictable upsurge in malnutrition, due to food insecurity and diversion of healthcare resources away from nutrition programs and towards COVID-19, it is important to provide timely screening, referral services, and micronutrient supplements to vulnerable populations.	This editorial highlights concerns related to and potential strategies to mitigate the growing nutritional crisis due to the food insecurity and disruptions in routine service delivery caused by the COVID-19 pandemic, particularly for vulnerable populations.	Kumar Y, Jain A. COVID-19 Pandemic - Are We Heading From Health Crisis Towards An Unprecedented Nutrition Crisis? [published online 2020 May 10]. Curr Top Med Chem. doi:10.2174/1568026620999200511092629
Pregnancy, breastfeeding, breast milk sam ples, viral clearance, China	8-May-20	Can SARS-CoV-2-infected women breastfeed after viral clearance?	Journal of Zhejiang University-SCIENCE B	Correspond ence	It is unclear whether breastfeeding transmits SARS-CoV-2 virus from previously infected and recovered mothers to their newborns. This report presents the clinical course of a pregnant woman (35 weeks and 2 days of gestation at admission) with COVID-19 and viral RNA measurements in the patient's breastmilk samples at different time points after delivery. At delivery, RT-PCR tests of maternal serum, urine, stool, cord blood, amniotic fluid, and placenta were negative for SARS-CoV-2. An oropharyngeal swab from the newborn was obtained immediately after birth and was negative. The newborn was isolated and subsequent oropharyngeal swabs, blood,	Repeated RT-PCR analyses of breast milk samples in a postpartum mother with COVID-19 were consistently negative, contributing to growing evidence that SARS-CoV-2 is not transmitted through breast milk.	Lang GJ, Zhao H. Can SARS-CoV-2-infected women breastfeed after viral clearance?. J Zhejiang Univ Sci B. 2020;21(5):405-407. doi:10.1631/jzus.B2000095

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					stool, and urine remained negative. Beginning on day 4 of hospitalization, repeated RT-PCR analyses of the mother's sputum and breastmilk were consistently negative for SARS-CoV-2 viral RNA. The authors conclude that breastfeeding can be practiced after an isolation period is completed and repeat testing is normal. In the meantime, breast pumping is recommended to preserve benefits of human milk for newborns and mothers.		
Children, neonatal infection, clinical characteristics, vertical transmission, systematic review	8-May-20	Characterisation of COVID-19 Pandemic in Paediatric Age Group: A Systematic Review and Meta-Analysis	Journal of Clinical Virology	Review Article	This systematic review and meta-analysis analyze articles on pediatric cases of COVID-19, published up to April 2, 2020 in PubMed and Google Scholar. Of 251 children (median age: 6.5 years, range: 0-12 years) reported in 11 studies, the most frequently reported symptoms were cough (49%, 95% CI: 42 - 55%) and fever (47%, 95% CI: 41- 53%). Lymphopenia and elevated Procalcitonin levels were recorded in 17 cases (21%, 95% CI: 12 - 30%) and 22 cases (28%, 95% CI: 18 - 37%) respectively. The case fatality rate was 0%. In addition, from 6 studies reviewed to determine vertical transmission risk, 4/58 neonates (6.8%) born to COVID-19 confirmed mothers tested positive on various samples for the disease. The affected neonates were all males and delivered by cesarean section. One neonate, who tested negative for SARS-CoV-2, died from multiorgan failure and disseminated intravascular coagulation. All samples of breast milk, amniotic fluid, cord blood, placenta, and vaginal swab in this review tested negative for SARS-CoV-2.	This systematic review evaluates literature on COVID-19 in children and reports of neonatal outcomes to analyze disease characterization in the pediatric age group including the possibility of vertical transmission.	Mustafa NM, A Selim L. Characterisation of COVID-19 Pandemic in Paediatric Age Group: A Systematic Review and Meta-Analysis [published online 2020 May 8]. J Clin Virol. doi:10.1016/j.jcv.2020.104395
Pregnancy, neonates, temporary separation, skin -to-skin contact, breastfeeding	8-May-20	Should Infants Be Separated from Mothers with COVID-19? First, Do No Harm	Breastfeeding Medicine	President's Corner	The World Health Organization (WHO) recommends that infants and mothers with suspected or confirmed COVID-19 “should be enabled to remain together and practice skin-to-skin contact...” Breastfeeding is strongly recommended. In contrast, the U.S. Centers for Disease Control and Prevention (CDC) advises that facilities “consider temporarily separating the mother from her infant” until the mother is no longer considered contagious. During separation, women may express breast milk to be fed to the newborn by a healthy caregiver. This article considers the following risks of temporary separation. 1) Separation may not prevent infection. 2) Interruption of skin-to-skin care disrupts newborn physiology. 3) Separation stresses mothers.4) Separation interferes with provision of maternal milk to the infant, disrupting immune protection. 5) Disruptions in breastfeeding increase the risk of infant hospitalization for pneumonia. 6) Separate isolation doubles the burden on the health system.	This article presents potential risks of temporary separation of infants and mothers with COVID-19, as advised by the U.S. CDC.	Stuebe A. Should Infants Be Separated from Mothers with COVID-19? First, Do No Harm. Breastfeed Med. 2020;15(5):351-352. doi:10.1089/bfm.2020.29153.ams
Human milk, immune response, secretory IgA antibodies	8-May-20	Evidence of a significant secretory-IgA-dominant SARS-CoV-2 immune response in human milk follo wing recovery from COVID-19	medRxiv	Preprint (not peer reviewed)	The extent of the human milk immune response to SARS-CoV-2 is unknown. This response is critical for infants and young children, who experience mild COVID-19 disease but are likely responsible for significant virus transmission. Perhaps even more significant is the fact that milk anti-bodies (Abs) could be purified and used as a COVID-19 therapeutic, given they would likely be of the secretory (s) class and highly resistant to proteolytic degradation in respiratory tissue. In this preliminary report, 15 milk samples obtained from donors previously-infected with SARS-CoV-2, as well as 10 negative control samples obtained pre-pandemic, were tested for reactivity to the Receptor Binding Domain of the SARS-CoV-2 Spike protein by ELISA assays measuring IgA, IgG, IgM, and secretory Ab. 80% of samples obtained post-pandemic exhibited IgA reactivity, and all these samples were also positive for secretory Ab reactivity, suggesting the IgA is predominantly sIgA. COVID-19	These data indicate that there is strong sIgA-dominant SARS-CoV-2 immune response in human milk after infection.	Fox A, Marino J, Amanat F, et al. Evidence of a significant secretory-IgA-dominant SARS-CoV-2 immune response in human milk following recovery from COVID-19 [published online 2020 May 8]. medRxiv. doi:10.1101/2020.05.04.20089995

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					group mean optical density (OD) values of undiluted milk were significantly greater for IgA (p<0.0001), secretory-type Abs (p<0.0001), and IgG (p=0.017), but not for IgM, compared to pre-pandemic group mean values.		
Pregnancy, preterm neonate, breast milk sample, Belgium	7-May-20	COVID-19 in a 26-week preterm neonate	Lancet Child & Adolescent Health	Case Report	An extremely preterm female neonate (26 gestational weeks + 4 days) was born at a tertiary level hospital in Brussels, Belgium, on March 1, 2020. The mother had been referred from a peripheral hospital for pre-eclampsia and suspected cholecystitis. During hospitalization, the mother developed HELLP (hemolysis, elevated liver enzymes, and low platelet count) syndrome and intramuscular corticosteroids were administered for fetal pulmonary maturation. The neonate was delivered by cesarean section 48 hours later and transferred to the NICU, where she received non-invasive intermittent positive pressure ventilation and surfactant therapy. Despite a pneumothorax requiring drainage, the neonate remained stable in a closed incubator throughout her admission. On day 6 after delivery, the mother's nasopharyngeal swab tested positive for SARS-CoV-2, and the neonate tested positive the following day. Prior to the mother's diagnosis, the neonate had received maternal expressed breast milk, which had tested negative for SARS-CoV-2. RT-PCR testing of the neonate's nasopharyngeal swab was positive 7 days after the initial positive test and tested negative after 14 days; the mother tested negative only after 21 days.	This case study describes an extremely preterm neonate, born to a mother with COVID-19. Both were diagnosed with SARS-CoV-2 following delivery and remained clinically stable. A maternal breast milk sample tested negative for SARS-CoV-2 RNA.	Piersigilli F, Carkeek K, Hocq C, van Grambezen B, Hubinont C, Chatzis O et al. COVID-19 in a 26-week preterm neonate [published online 2020 May 7]. Lancet Child & Adol Health. doi:10.1016/S2352-4642(20)30140-1
Neonatal nutrition, breastfeeding, human milk banking	6-May-20	Maintaining safety and service provision in human milk banking: a call to action in response to the COVID-19 pandemic	The Lancet Child & Adolescent Health	Comment	A Virtual Communication Network of milk bank leaders formed on March 17, 2020, and now has more than 80 members from 34 countries. Data collated from regional and country leads show that more than 800,000 infants are estimated to receive donor milk worldwide annually. The group actively discusses COVID-19-specific challenges and has developed mitigation strategies to ensure donor milk safety and service continuation, which will shortly be made available as a publication. Unlike HIV, where transmission via breastfeeding was a source of infection, there is no evidence to support SARS-CoV-2 transmission from human milk, and the virus is inactivated by heat treatment. In line with WHO recommendations, the promotion of breastfeeding and a human milk diet, using donor milk bank resources, must be prioritized as an essential component of early newborn care.	A Virtual Communication Network of international milk bank leaders considers issues related to the provision of donor milk services during the COVID-19 pandemic and provides guidance around breastfeeding.	Shenker N, on behalf of the Virtual Collaborative Network of Human Milk Banks and Associations. Maintaining safety and service provision in human milk banking: a call to action in response to the COVID-19 pandemic [published online 2020 May 6]. Lancet Child & Adol Health. doi:10.1016/S2352-4642(20)30134-6
Infants, neonates, preterm delivery, pediatric intensive care, UK	6-May-20	COVID-19 in Neonates and Infants: Progression and Recovery	The Pediatric Infectious Diseases Journal	Brief Report	This case series reports on 8/70 (11.4%) SARS-CoV-2 positive infants (range: 5 days-12 months), who were tested between March 10 and April 17, 2020. 5/8 (63%) developed fever, 4/8 (50%) had lower respiratory tract involvement, 2/8 (25%) had neutropenia and thrombocytosis, and 4/8 infants (50%) were treated for suspected sepsis with broad-spectrum antibiotics. Only 1/8 (13%) required pediatric intensive care following premature delivery at 34 weeks' gestation; the neonate was still able to be breastfed after delivery. All patients were eventually discharged.	In this case series of neonates and infants, cases of COVID-19 ranged from asymptomatic to moderately severe; all recovered quickly and were asymptomatic by discharge.	Ng KF, Bandi S, Bird PW, Wei-Tze Tang J. COVID-19 in Neonates and Infants: Progression and Recovery [published online, 2020 May 6]. Pediatr Infect Dis J. 2020. doi:10.1097/INF.0000000000002738

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Newborn, neonate, postnatal transmission, breastfeeding	6-May-20	Newborns at Risk of COVID-19	Journal of Perinatal Medicine	Editorial	Newborns can be infected with SARS-CoV-2, and transmission is thought to primarily occur postnatally. Guidelines for the care of COVID-19-positive or suspected-positive mother-infant duos in the immediate post-natal period have been put forth, but there are differences in the proposed approaches. The authors discuss the strategies recommended by China, the European Society/WHO, and the CDC/American Academy of Pediatrics in the USA. They then describe the pros and cons of these different approaches. They also present emerging data about asymptomatic or mildly symptomatic mothers who become severely ill after delivery. In conclusion, the authors state that global collaborative research efforts are needed to fully understand the implications of the diverse approaches to handling newborns at risk of COVID-19.	Post-natal transmission of SARS-CoV-2 can lead to neonatal infections of COVID-19. Different guidelines have been proposed for the care of these mothers/infants; however, global research is needed to understand the outcomes of these various approaches.	Shah MD, Saugstad OD. Newborns at risk of COVID-19. [published online, 2020 May 6]. J Perinat Med. doi:10.1515/jpm-2020-0170
Pregnancy, breastfeeding, COVID-19	5-May-20	Pregnancy and breastfeeding during COVID-19 pandemic: A systematic review of published pregnancy cases	medRxiv	Preprint (not peer-reviewed)	This systematic review describes the outcomes of published cases (up to 8 April 2020) of pregnant women diagnosed with COVID-19 (confirmed by clinical/radiological evidence of pneumonia compatible with SARS-CoV-2 and/or by PCR testing). Searches were conducted in PubMed using PRISMA standards to identify original studies in any language. The authors identified 30 original studies reporting 212 cases of pregnant women with COVID-19 (30 discharged while pregnant); 200 from China and 12 from other countries. The following data were collected from each study: maternal age, pregnancy complications, type of delivery, indication for C-section, gestational age at birth (or admission), pregnancy outcome, maternal admission to ICU, maternal death, neonatal outcomes, intra-uterine and/or neonatal samples collected for detection of SARS-CoV-2 (amniotic fluid, cord blood, placenta, breast milk, nasopharyngeal and anal swabs) and their results. Maternal age ranged from 22 to 41 years. The 182 deliveries resulted in 1 stillbirth and 185 live births. 4 women with severe COVID-19 required admission to an ICU but no cases of maternal death were reported. There was 1 neonatal death in a preterm infant from a pregnant woman with vaginal bleeding in her 3rd trimester. Preterm births occurred in 28.7% of cases, but the causes are unclear. All cases with amniotic fluid, placenta, and/or cord blood analyzed for the SARS-CoV-2 virus were negative. 4 newborns were positive for SARS-CoV-2 and 3 newborns had high levels of IgM antibodies. Breast milk samples from 13 mothers (from 7 studies) showed no evidence of SARS-CoV-2. The authors conclude that pregnant women and newborns should be considered particularly vulnerable populations in the context of the COVID-19 pandemic. Considering the benefits of breastfeeding and the fact that transmission of respiratory viruses (including SARS-CoV-2) is insignificant through breast milk, the authors conclude there is insufficient evidence to discourage breastfeeding.	This study reviews the outcomes of published cases (n=30) up to 8 April 2020 of pregnant women (n=212) diagnosed with COVID-19. The following data were summarized: maternal age, pregnancy complications, type of delivery, indication for C-section, gestational age at birth (or admission), pregnancy outcome, maternal admission to ICU, maternal death, neonatal outcomes, intra-uterine and/or neonatal samples collected for detection of SARS-CoV-2 (amniotic fluid, cord blood, placenta, breast milk, nasopharyngeal and anal swabs) and their results.	Rodrigues C, Baia I, Domingues R, Barros H. Pregnancy and breastfeeding during COVID-19 pandemic: A systematic review of published pregnancy cases. medRxiv. 2020:2020.04.25.20079509. doi: 10.1101/2020.04.25.20079509.
Pregnancy, breast milk samples, vaginal secretions, China	5-May-20	Coronavirus Disease 2019 Among Pregnant Chinese Women: Case Series Data on the Safety of	BJOG	Case Series	In this single center cohort study, 13 pregnant women with SARS-CoV-2 infection, diagnosed between January 31 and March 9, 2020 at Renmin Hospital, Wuhan, China, were included. Of the 13 women, 5 were in their first trimester, 3 in their second trimester, and 5 in their third trimester. Of the 5 women during their third trimester who gave birth, all delivered live newborns. Among these 5 deliveries, the primary adverse perinatal outcomes included premature delivery (n = 2) and neonatal pneumonia (n =	Negative SARS-CoV-2 test results for vaginal secretion specimens, from pregnant women with COVID-19, suggest that vaginal delivery may be a safe option. However, a positive breast milk sample in this	Wu Y, Liu C, Dong L, et al. Coronavirus disease 2019 among pregnant Chinese women: Case series data on the safety of vaginal birth and breastfeeding

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		Vaginal Birth and Breastfeeding			2). One of 9 maternal stool samples was positive for SARS-CoV-2 on RT-PCR; all 13 vaginal secretion samples in addition to 5 neonatal throat swabs and 4 neonatal anal swabs were negative. However, 1 of 3 samples of breast milk was positive by viral nucleic acid testing.	study warrants further study of the risk for viral contamination.	[published online, 2020 May 5]. BJOG. 2020. doi:10.1111/1471-0528.16276
Lower genital tract, transmission, breast milk, neonatal	4-May-20	Severe acute respiratory syndrome coronavirus 2 detection in the female lower genital tract	American Journal of Obstetrics and Gynecology	Research Letter	In this study, the authors recruited 35 women (age range 35-88 years) who tested positive for SARS-CoV-2 infection from January 28-February 18, 2020 at three branches of the Tongji Hospital in China. 27 women tested positive for SARS-CoV-2 by RT-PCR. To avoid false positives, vaginal fluid, exfoliated cell, and anal swabs were collected twice from each patient and tested at two separate laboratories, with positive cases being defined as patients with a positive test from either laboratory. The time between the beginning of symptoms and the collection of swabs ranged from 8-41 days. One anal swab and no swabs from the lower genital tract were positive for SARS-CoV-2. Breast milk obtained from one post-partum patient on the third day after delivery tested negative, along with neonatal throat swabs. The authors concluded that SARS-CoV-2 was not found in the lower genital tract in cervical exfoliated and vaginal fluid, and thus the lower genital tract may not be a transmission route for SAS-CoV-2.	The authors tested vaginal and anal samples from women who tested positive for SARS-CoV-2 infection by RT-PCR, reporting negative findings for the tests. They also report no SARS-CoV-2 detected in breastmilk and neonate throat swabs. They concluded that SARS-CoV-2 was not transmitted through the lower genital tract.	Cui P, Chen Z, Wang T et al. Severe acute respiratory syndrome coronavirus 2 detection in the female lower genital tract. Am J Obstet Gynecol. 2020 Jul;223(1):131-134. doi: 10.1016/j.ajog.2020.04.038. Epub 2020 May 4. PMID: 32376320; PMCID: PMC7196539.
Neonatal infection, hypoxemia, perioral cyanosis, poor sucking, maternal expressed milk, Italy	4-May-20	Early Neonatal SARS-CoV-2 Infection Manifesting With Hypoxemia Requiring Respiratory Support	Pediatrics	Case Report	On the second day after uncomplicated vaginal delivery of a male neonate, the mother developed fever without respiratory symptoms, and her nasopharyngeal swab was positive for SARS-CoV-2. A nasopharyngeal swab obtained on the same day was also positive for the neonate, who was isolated from his mother. After 48 hours of isolation, on day 5 of life, the neonate developed perioral cyanosis and poor sucking without signs of respiratory distress. Arterial blood gas analysis demonstrated moderate hypoxia. The neonate was admitted to the NICU and placed on 30% inspired oxygen via high-flow nasal cannula, and his condition improved. He was fed maternal expressed milk by nasogastric tube for 48 hours, after which he was able to be fully fed orally. On days 15 and 21 of life, his qualitative PCR for COVID-19 remained positive.	A case of COVID-19 in a 3-day-old neonate manifested with silent hypoxemia. The neonate was fed expressed maternal milk via nasogastric tube until he was able to be fed orally. The nasopharyngeal swab remained positive for more than two weeks, unlike previous reports showing rapid virologic clearance.	Sinelli MT, Paterlini G, Citterio M, Di Marco A, Fedeli T, Ventura ML. Early Neonatal SARS-CoV-2 Infection Manifesting With Hypoxemia Requiring Respiratory Support [published online, 2020 May 4]. Pediatrics. 2020. doi:10.1542/peds.2020-1121
Vertical transmission, congenital vs. perinatal transmission, placenta, breast milk samples, maternal antibodies	3-May-20	Evidence for and Against Vertical Transmission for SARS-CoV-2 (COVID-19)	American Journal of Obstetrics and Gynecology	Review (journal pre-proof)	Twelve articles, published between February 10 and April 4, 2020, reporting on 68 cases of maternal infection in the third trimester of pregnancy and deliveries of 71 neonates were identified. In these studies, SARS-CoV-2 viral nucleic acid was recovered by RT-PCR from nasal/throat swabs, sputum and feces of symptomatic patients, including neonates, but not from maternal vaginal swabs, amniotic fluid, placenta, cord blood, neonatal blood or breast milk samples. Understanding perinatal exposure, influenced by mode of delivery (e.g. exposure to maternal feces during vaginal delivery) and time interval from delivery to the diagnosis of neonatal infection (e.g. exposure to maternal respiratory secretions after birth), is crucial in differentiating congenital from perinatal infection. The low presence of viremia (observed in only 1% of symptomatic adults) decreases the likelihood of placental infection. In addition, the interpretation of IgM and IgG antibodies levels in cord and neonatal blood, in the context of serological evidence for vertical transmission, is also discussed in this review.	This review discusses published literature to date that support or refute the possibility of vertical transmission, both congenital and perinatal, of SARS-CoV-2 infection.	Lamouroux A, Attie-Bitach T, Martinovic J, Leruez-Ville M, Ville Y. Evidence for and against vertical transmission for SARS-CoV-2 (COVID-19) [published online, 2020 May 3]. Am J Obstet Gynecol. 2020. doi:10.1016/j.ajog.2020.04.039

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Neonatal, late onset infection, pregnancy, breastfeeding, maternal antibodies, Italy	2-May-20	Neonatal Late Onset Infection With Severe Acute Respiratory Syndrome Coronavirus 2	American Journal of Perinatology	Short Communication	This observational study aimed to evaluate post-discharge SARS-CoV-2 status of newborns (born to pregnant women with COVID-19) who were negative for SARS-CoV-2 infection at birth. Of seven pregnant women with documented SARS-CoV-2 infection, one woman had a spontaneous abortion at 8 weeks of gestational age, four women recovered and are still in follow-up, and two women delivered, at term and pre-term respectively. At birth and 3 days of life, both neonates were negative for SARS-CoV-2 infection. At the 15-day follow-up, one newborn tested positive on nasopharyngeal swab, although he was asymptomatic. This newborn had been breastfed by his mother, who wore a mask while recovering from COVID-19. Since breast milk samples tested negative, respiratory secretions were the likely source of late-onset neonatal infection. Authors speculate that SARS-CoV-2 IgG antibodies (documented at birth in neonatal blood) protected the newborn from symptomatic infection, preserving the benefits of breastfeeding. At follow-up, the second newborn tested negative for SARS-CoV-2 on nasopharyngeal and rectal swabs and had been fed expressed milk by his father. These findings highlight the importance of long-term follow-up of newborns to mothers with COVID-19 in pregnancy.	This case report describes one case of late-onset, asymptomatic neonatal infection, following delivery by a COVID-19 positive mother. It is possible that maternal SARS-CoV-2 IgG antibodies, documented in neonatal blood at birth, protected the newborn from a symptomatic course of infection.	Buonsenso D, Costa S, Sanguinetti M, et al. Neonatal Late Onset Infection with Severe Acute Respiratory Syndrome Coronavirus 2 [published online, 2020 May 2]. Am J Perinatol. 2020. doi:10.1055/s-0040-1710541
Obstetrics, breast feeding, breast milk, PPE, cesarean delivery, Jordan	1-May-20	Multidisciplinary team management and cesarean delivery for a Jordanian woman infected with SARS-COV-2: A case report	Case Reports in Women's Health	Case Report	In this case report, the authors describe a cesarean delivery for a woman with COVID-19 in Jordan. A previously healthy 30-year-old woman, gravida 4 para 3, was admitted at 36 weeks gestation of an uncomplicated pregnancy in March 2020 after her nasopharyngeal swab was positive for SARS-COV-2. She reported a mild dry cough, runny nose, and episodes of chills and headache three days prior to admission. On admission her vital signs were stable without fever or hypoxia. She was treated with hydroxychloroquine 400 mg twice daily for a total of 9 days with mild symptoms. Her blood tests were unremarkable except for mild D-dimer elevation (0.65 micrograms/ml). The decision was made to perform a C-section on the 3rd day of admission, given that she had a history of prior c-section and vaginal delivery complicated by severe postpartum hemorrhage. A multi-disciplinary meeting was held prior to the delivery, and precautions were taken including regional (spinal) anesthesia, minimizing the number of staff, appropriate staff PPE including a filtering facepiece level 3 (FFP3) mask, and patient use of an N95 make throughout the procedure. A vigorous infant was born, weighing 2.5 kg with APGAR scores of 8 at 1 min and 9 at 5 min. The infant was isolated from the mother and tested negative for SARS-CoV- at birth, 72 hours, and 6 days of life. Although she was bottle fed until negative testing of maternal breast milk, the authors note that there is no evidence of SARS-COV-2 in breast milk of mothers with COVID-19, therefore expressed breast milk by infected mothers can be given to infants by a caregiver. The patient remained in stable condition throughout the 11-day hospital stay and was discharged home after 6 days of treatment and a negative nasopharyngeal swab.	The authors describe the cesarean delivery for a SARS-CoV-2 positive mother in Jordan. Although the infant was initially bottle fed, the authors report that there is no evidence of SARS-COV-2 in breast milk of mothers with COVID-19, therefore expressed breast-milk by infected mothers can be given to infants by a caregiver. Both mother and infant were discharged without complications.	AlZaghal LA, AlZaghal N, Alomari SO, et al. Multidisciplinary team management and cesarean delivery for a Jordanian woman infected with SARS-COV-2: A case report. Case Rep Womens Health. 2020 May 1;27:e00212. doi: 10.1016/j.crwh.2020.e00212.
Pregnancy complications, adverse neonatal outcomes, fetal	1-May-20	Potential Implications of SARS-CoV-2 on Pregnancy	Taiwanese Journal of Obstetrics and Gynecology	Correspondence	To date, there are limited data on the consequences of COVID-19 on pregnancy; however, SARS in 2003 and MERS in 2012 were responsible for severe complications during pregnancy. In a review of previous coronavirus infections in pregnancy, there were 13 cases of SARS-CoV and 11 cases of MERS-CoV reported in the literature. Maternal outcomes of the 13 SARS	In light of SARS-CoV-2 having similar pathogenic characteristics as SARS-CoV and MERS-CoV, pregnant women who become	Tseng JY. Potential implications of SARS-CoV-2 on pregnancy. Taiwan J Obstet Gynecol.

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death, SARS-CoV, MERS-CoV					cases include: 4 had miscarriage, 2 opted for termination of pregnancy, 2 required mechanical ventilation, 3 were treated conservatively, and 2 died. No neonatal adverse effect was noted except for 2 premature births. Maternal outcomes of the 11 MERS-CoV cases include: 2 were asymptomatic, 2 required mechanical ventilation, 3 were treated conservatively, 1 refused treatment, and 3 died. 2 cases of intrauterine fetal demise and 1 fetal death due to prematurity were reported. Neonatal infection due to possible vertical transmission was not detected in any of the SARS or MERS cases, except for 1 SARS case in the United States where cord blood and breast milk were positive for the SARS-CoV antibody.	infected are at risk for adverse maternal and fetal complications.	2020;59(3):464-465. doi:10.1016/j.tjog.2020.03.025
Breastfeeding, Infants, Mother-to-child transmission	1-May-20	Breastfeeding of infants born to mothers with COVID-19: a rapid review	Annals of Translational Medicine	Rapid Review	This systematic review examined 4,481 records to assess mother-to-child transmission through milk and respiratory droplets during breastfeeding of mothers with COVID-19, SARS, MERS and influenza. Current findings indicate that SARS-CoV-2 viral nucleic acid has not been detected in breast milk and the benefits of breastfeeding may outweigh the risk of SARS-CoV-2 infection in infants. This article did conclude that because SARS-CoV-2 is transmitted via close contact and droplets, transmission from mother to infant may be possible while breastfeeding. However, by taking effective precautions, the risk of transmission while breastfeeding can be reduced but not entirely avoided.	There is no evidence of detected viral nucleic acid in breast milk of mothers with COVID-19. Taking appropriate precautions can reduce the risk of transmission contact during breastfeeding. The benefits of breastfeeding are thus likely to outweigh the risk of COVID-19 infection in infants.	Yang N, Che S, Zhang J, et al. COVID-19 Evidence and Recommendations Working Group (2020). Breastfeeding of infants born to mothers with COVID-19: a rapid review. Annals of translational medicine, 8(10), 618. doi:10.21037/atm-20-3299
Children, pediatric emergency department, clinical characteristics, epidemiology, Italy	1-May-20	Children with Covid-19 in Pediatric Emergency Departments in Italy	New England Journal of Medicine	Correspondence	The Coronavirus Infection in Pediatric Emergency Departments (CONFIDENCE) study involved a cohort of 100 Italian children (<18 years) with COVID-19, confirmed by RT-PCR testing of nasal or nasopharyngeal swabs. Children (median age 3.3 years, range 0-27.5 years) were assessed between March 3 and March 27, 2020 in 17 pediatric emergency departments. Exposure to SARS-CoV-2 from an unknown source or from a source outside the child's family accounted for 55% of the cases of infection. Common symptoms were cough (44%) and no feeding or difficulty feeding (23%). Among the entire cohort, 21% of patients were asymptomatic, 58% had mild disease, 19% had moderate disease, 1% had severe disease, and 1% were in critical condition. Of the 9 patients who received respiratory support, 6 had coexisting conditions. No deaths were reported.	Most children with COVID-19 in this Italian cohort had mild disease; no deaths were reported. The incidence of transmission through family cluster exposure was lower in this cohort, compared to previously studied cohorts in other countries.	Parri N, Lenge M, Buonsenso D. Children with Covid-19 in Pediatric Emergency Departments in Italy [published online, 2020 May 1]. NEJM. doi:10.1056/NEJMc2007617
Children, infants, neonates, diagnosis, screening, management, patient education, breastfeeding, WHO	1-May-20	Rapid Advice Guidelines for Management of Children With COVID-19	Annals of Translational Medicine	Guideline	An international multidisciplinary working group developed the present rapid advice guidelines for management of children with COVID-19 using the methods and process proposed by the WHO and GRADE working group. This guideline focuses on the management of children younger than 18 years old infected with SARS-CoV-2, including screening, diagnosis, treatment, and patient education. The target users of the guideline include pediatricians, clinical pharmacists, general practitioners, nurses, policy makers, national ministries of health, child rights advocacy groups and other health workers in general and children's hospitals, primary clinics and communities worldwide, as well as families involved in the prevention and control of COVID-19 in children. The article proposes clinical questions, accompanied by rationale and evidence summaries to support the outline	To the authors' knowledge, this guideline is the first international rapid advice guideline for management of children with COVID-19 based on WHO guidance approach, supported by systematic review of existing guidelines.	Liu E, Smyth RL, Luo Z, et al. Rapid advice guidelines for management of children with COVID-19. Ann Transl Med. 2020;8(10):617. doi:10.21037/atm-20-3754

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					recommendations. For example, breastfeeding mothers with SARS-CoV-2 infection should continue to breastfeed their newborns, while taking appropriate precautions, based on limited evidence of viral transmission via breastmilk.		
Pregnancy, mother-newborn separation, breastfeeding, infection control, prenatal clinics	1-May-20	Coronavirus Disease 2019 (COVID-19) and Pregnancy: Responding to a Rapidly Evolving Situation	Obstetrics & Gynecology	Current Commentary	Although guidelines for pregnant women have been rapidly developed based on the best available evidence, additional information is critically needed to inform key decisions, such as whether pregnant health care workers should receive special consideration, whether to temporarily separate infected mothers and their newborns, and whether it is safe for infected women to breastfeed. Some current recommendations are well supported, based largely on what we know from seasonal influenza: patients should avoid contact with ill persons, avoid touching their face, cover coughs and sneezes, wash hands frequently, disinfect contaminated surfaces, and stay home when sick. Prenatal clinics should ensure all pregnant women and their visitors are screened for fever and respiratory symptoms, and symptomatic women should be isolated from well women and required to wear a mask. The authors recommend that as COVID-19 rapidly spreads, obstetricians must keep up to date on the latest information.	This review discusses current guidelines for infection control in pregnant women.	Rasmussen SA, Jamieson DJ. Coronavirus Disease 2019 (COVID-19) and Pregnancy: Responding to a Rapidly Evolving Situation. Obstet Gynecol. 2020;135(5):999-1002. doi:10.1097/AOG.0000000000003873
Breastfeeding, social media, Twitter data, scientific guidance	28-Apr-20	Distance, Diffusion, and the Role of Social Media in a Time of COVID Contagion	Maternal & Child Nutrition	Letter to the Editor	Since December 2019, a team of health and social scientists have captured Twitter data and employed social network analyses to examine the diffusion of pseudoscience and misinformation related to breastfeeding. Our findings indicate a "breastfeeding and COVID-19" social network totaling 756 unique users, 880 tweets and 28 distinct communities. The WHO and other professional users act as key diffusers of information. While the vast majority of tweets reflected current scientific guidance, updates from researchers about ongoing COVID-19 studies, as well as community engagement and breastfeeding advocacy, 6% of tweets contained scientifically unfounded recommendations and commercial promotions.	An analysis of Twitter data revealed that the majority of tweets related to COVID-19 and breastfeeding reflects scientific guidance. Vigilance is still necessary to counter the diffusion misinformation.	Moukarzel S, del Fresno M, Bode L, Daly AJ. Distance, Diffusion, and the Role of Social Media in a Time of COVID Contagion [published online 2020 April 28]. doi:10.1111/mcn.13025
Pregnancy, neonates, cesarean section, China	28-Apr-20	Clinical Presentations and Outcomes of SARS-CoV-2 Infected Pneumonia in Pregnant Women and Health Status of Their Neonates	Science Bulletin	Short Communication	In this retrospective study, five pregnant women were admitted between January 21 and February 9, 2020 to Wuhan Union Hospital. All patients were >34 weeks' gestation and presented with fever or respiratory symptoms. All were SARS-CoV-2 positive, confirmed by real-time RT-PCR and developed mild pneumonia during the course of hospitalization. Four patients delivered by cesarean section, and one delivered vaginally. Neonates were separated from their mothers at birth, without breastfeeding. There were no respiratory symptoms observed in neonates, and all tested negative on SARS-CoV-2 RT-PCR, using throat swab specimens collected at zero (1/5), one (2/5), or eight (2/5) days after birth.	Five neonates, born to mothers with confirmed COVID-19 in Wuhan, China, tested negative for SARS-CoV-2 infection in throat swab samples.	Xu L, Yang Q, Shi H, et al. Clinical presentations and outcomes of SARS-CoV-2 infected pneumonia in pregnant women and health status of their neonates [published online, 2020 Apr 28]. Sci Bull (Beijing). 2020. doi:10.1016/j.scib.2020.04.040
Neonate, clinical presentation, breastmilk, vertical transmission	27-Apr-20	COVID-19 and newborn health: systematic review	Pan American Journal of Public Health	Review Article	This article aimed to describe perinatal and neonatal outcomes in newborns exposed to SARS-CoV-2. A systematic review was conducted by searching PubMed Central, LILACS, and Google Scholar using the keywords 'covid ' AND 'newborn' OR 'child' OR 'infant,' on March 18 2020, and again on April 17 2020. 20 articles met the inclusion criteria comprised of data on 222 newborns with mothers who were either suspected or confirmed to be	The authors describe the perinatal and neonatal outcomes in newborns exposed to SARS-CoV-2, highlighting that the majority of cases are mild with little to no symptoms. Additionally, they state	Duran P, Berman S, Niermeyer S, et al. COVID-19 and newborn health: systematic review. Rev Panam Salud Publica.

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					SARS-CoV-2 positive perinatally (17 studies) or newborns referred to hospital with infection/pneumonia (3 studies). Of the 222 newborns (>17 days old), 13 were reported as positive for SARS-CoV-2. Most of the studies reported mild to no symptoms and no adverse perinatal outcomes. However, there were some instances where positive newborns had moderate to severe clinical characteristics, and radiographic imaging reported pneumonia, increased lung marking, thickened texture, or high-density nodular shadow. Studies that tested breastmilk reported negative SARS-CoV-2 results. The authors state that the vertical transmission could not be confirmed or denied at the study time. Additionally, they state that the current literature does not support abstaining from breastfeeding nor separating mothers and newborns.	negative SARS-CoV-2 results for breastmilk and advise that abstaining from breastfeeding is not supported by the literature.	2020 Apr 27;44:e54. doi: 10.26633/RPSP.2020.54.
Breast feeding, pneumonia, viral, virus diseases	27-Apr-20	To breastfeed or not to breastfeed? Lack of evidence on the presence of SARS-CoV-2 in breastmilk of pregnant women with COVID-19	Revista Panamericana de Salud Publica (Pan American Journal of Public Health)	Review Article	These authors performed a rapid systematic review to evaluate the evidence, as of 21 April 2020, on the presence of SARS-CoV-2 in breast milk from women with COVID-19. They found 8 studies analyzing the presence of SARS-CoV-2 RNA in the breast milk of 24 women with COVID-19 during the third trimester of pregnancy. All patients had fever and/or acute respiratory symptoms and chest CT images indicative of COVID-19 pneumonia. Most pregnant women had C-sections (n = 22, 91.7%) and 2 neonates (8.3%) had low birthweight (< 2500 g). Biological samples collected immediately after birth from the upper respiratory tract of neonates and placental tissues were negative for SARS-CoV-2 by RT-PCR testing. No breast milk samples were positive for SARS-CoV-2. The authors share recommendations from the CDC and WHO at the time of their writing; recommendations include avoiding viral transmission to infants by wearing a mask and washing hands and breasts with soap and water before breastfeeding.	These authors performed a rapid systematic review to evaluate the evidence, as of 21 April 2020, on the presence of SARS-CoV-2 in breast milk from women with COVID-19. From 8 studies including 24 COVID-19 positive women, no breast milk samples were positive for SARS-CoV-2.	Martins-Filho PR, Santos VS, Santos HP Jr. To breastfeed or not to breastfeed? Lack of evidence on the presence of SARS-CoV-2 in breastmilk of pregnant women with COVID-19. Rev Panam Salud Publica. 2020 Apr 27;44:e59. doi: 10.26633/RPSP.2020.59. PMID: 32454808; PMCID: PMC7241574.
Pregnancy, vaginal delivery, neonatal infection, vertical transmission, breastfeeding, Italy	27-Apr-20	Vaginal Delivery in SARS-CoV-2 Infected Pregnant Women in Northern Italy: A Retrospective Analysis	BJOG: An International Journal of Obstetrics & Gynecology	Main Research Article	This retrospective study enrolled 42 pregnant women with COVID-19, who were admitted to 12 participating centers in northern Italy and delivered between March 1-20, 2020. Twenty-four (57.1%, 95% CI: 41.0-72.3) women delivered vaginally. An elective cesarean section was performed in 18/42 (42.9%, 95% CI: 27.7-59.0) cases—in 8 cases the indication was unrelated to COVID-19 infection. Pneumonia was diagnosed in 19/42 (45.2%, 95% CI: 29.8-61.3) cases. Of these, 7/19 (36.8%, 95% CI: 16.3-61.6) required oxygen support and 4/19 (21.1%, 95% CI: 6.1-45.6) were admitted to a critical care unit. In 10 cases, breastfeeding was permitted. Two women breastfed without a mask because COVID-19 was diagnosed in the post-partum period; their newborns tested positive for SARS-CoV-2 infection. In another case, a newborn was vaginally delivered and immediately separated from his mother, who developed severe postpartum hemorrhage. Within a few hours, the newborn developed gastrointestinal symptoms, and after three days he developed respiratory symptoms and was transferred to the NICU where he recovered after one day of mechanical ventilation. The first newborn test for SARS-CoV-2 was equivocal a few hours after delivery, but positive three days later. The mother did not breastfeed. No associated health care providers had a confirmed diagnosis of COVID-19 infection. No other positive SARS-CoV-2 test was found among the newborns.	Findings from this study suggest that vaginal delivery is associated with low risk of intra-partum SARS-CoV-2 transmission. Two neonates, born to mothers who were diagnosed with COVID-19 postpartum and did not wear masks while breastfeeding, tested positive for SARS-CoV-2. Other breastfed infants, whose mothers wore a mask, tested negative.	Ferrazzi E, Frigerio L, Savasi V, et al. Vaginal delivery in SARS-CoV-2 infected pregnant women in Northern Italy: a retrospective analysis [published online, 2020 Apr 27]. BJOG. 2020. doi:10.1111/1471-0528.16278

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Pediatrics, neonates, fetal development, breastfeeding	27-Apr-20	Challenges for the Pediatricians During the Coronavirus Disease 2019 (COVID-19 Coronavirus Disease 2019) Pandemic Start From the Neonatal Period	The Pediatric Infectious Disease Journal	Letter to the Editor	Apart from the management of febrile children, pediatricians will also have to face challenges of SARS-CoV-2 infection during the neonatal period. The first priority is identifying the timing of infection (antenatally, perinatally or postnatally) and confirming its presence. In the potential case of a neonate infected in utero, the timing of infection may impact fetal development and possibly longer-term outcomes. It is unknown whether acquisition of COVID-19 during the first trimester of pregnancy is associated with birth defects, or whether fetal infection is more likely in advanced pregnancy stages, similar to other congenital infections. It is also uncertain whether two tests are enough to rule out neonatal infection, given that serology is not always reliable. Guidelines on separation of infected mother and neonate and feeding options are mixed.	This letter raises important areas of uncertainty, related to fetal and neonatal SARS-CoV-2 infection.	Gkentzi D, Karatza A, Dimitriou G. Challenges for the Pediatricians During the Coronavirus Disease 2019 (COVID-19 Coronavirus Disease 2019) Pandemic Start From the Neonatal Period [published online, 2020 Apr 27]. Pediatr Infect Dis J. 2020. doi:10.1097/INF.0000000000002713
Infant, fever, neurologic manifestations, hypertonia, Spain	27-Apr-20	COVID-19: Fever Syndrome and Neurological Symptoms in a Neonate	Anales de Pediatría	Case Report	This case report describes a 26-day-old male who was brought to the emergency department (ED) after experiencing 2 paroxysmal episodes. The first episode manifested with upward eye rolling and generalized hypertonia lasting several minutes and associated with a feeding. The second episode manifested with generalized hypertonia and facial cyanosis lasting several minutes during sleep. On presentation to the ED, the infant had fever, nasal discharge, and vomiting. The infant was exclusively breastfed and had adequate weight. Given the presence of fever with neurologic manifestations, empirical antibiotic therapy was initiated until cultures yielded negative results. Blood, urine, cerebrospinal fluid and stool cultures were negative, and the stool was negative for RSV and influenza A and B viruses. The PCR test for SARS-CoV-2 detection was positive. The infant was discharged after 6 days, without evidence of convulsive seizures. Previous studies have demonstrated the neurotropic properties of coronaviruses, including in children <6 years old. However, the pathogenesis of febrile seizures is not directly related to the neuro-invasiveness of coronaviruses, so further research is required to understand their role in seizure etiology.	A COVID-19 positive infant initially presented with fever and neurologic manifestations. The neurotropic properties of SARS-CoV-2 virus warrant further attention and research.	Chacón-Aguilar R, Osorio-Cámara JM, Sanjurjo-Jimenez I, González-González C, López-Carnero J, Pérez-Moneo-Agapito B. COVID-19: Fever syndrome and neurological symptoms in a neonate [published online, 2020 Apr 27]. An Pediatr (Engl Ed). 2020. doi:10.1016/j.anpede.2020.04.001
Children, neonates, breastfeeding, India	26-Apr-20	Do Not Neglect the Children: Considerations for COVID-19 Pandemic	Indian Pediatrics	Correspondence	This brief correspondence provides an overview of various issues concerning children during the COVID-19 pandemic. These include clinical course of disease, reasons behind lower prevalence of COVID-19 among children compared to adults, asymptomatic transmission, breast feeding, and the effects of lockdown on children's mental and physical health.	This correspondence from Indian authors promotes indirect breastfeeding for COVID-19 positive mothers.	Naseri A, Hosseini MS. Do Not Neglect the Children: Considerations for COVID-19 Pandemic [published online, 2020 Apr 26]. Indian Pediatr. 2020;S097475591600165.
Pregnancy, neonate, vertical transmission,	24-Apr-20	Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)	Obstetrics & Gynecology	Research Letter	Authors report seven cases of confirmed COVID-19 during late pregnancy and neonatal outcomes, observed from January 20 to February 20, 2020. Prior to COVID-19 diagnosis, six of the pregnancies had been uneventful, and one had presented with liver dysfunction. No mother experienced clinical deterioration, and there were no delivery-related complications. Amniotic	1 out of 7 neonates, born to mothers with confirmed COVID-19 in late pregnancy, tested positive for SARS-CoV-2 infection in throat swabs, suggesting the potential for	Hu X, Gao J, Luo X, et al. Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Vertical

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amniotic fluid samples, China		Vertical Transmission in Neonates Born to Mothers With Coronavirus Disease 2019 Pneumonia			fluid samples were obtained at delivery and were negative by PCR testing. Cesarean delivery was performed for all but one woman, who delivered vaginally. All neonates were tested within the first 24-36 hours of life, and one (14.3%) was positive for SARS-CoV-2 infection in throat swabs. The neonates were isolated for 14 days and exclusively formula-fed.	vertical transmission, although infrequent.	Transmission in Neonates Born to Mothers With Coronavirus Disease 2019 (COVID-19) Pneumonia [published online, 2020 Apr 24]. Obstet Gynecol. 2020. doi:10.1097/AOG.0000000000003926
Pregnancy, exclusion criteria, clinical trial, therapeutics, vaccine development	24-Apr-20	Protection by Exclusion: Another Missed Opportunity to Include Pregnant Women in Research During the Coronavirus Disease 2019 (COVID-19) Pandemic	Obstetrics & Gynecology	Commentary	Governmental institutions and pharmaceutical companies are racing to find therapeutics and vaccines that target COVID-19. However, pregnant and breastfeeding women are excluded from participating in clinical trials during this pandemic. This "protection by exclusion" of pregnant women from drug development and clinical therapeutic trials, even during pandemics, is not unprecedented. Moreover, it is both misguided and not justifiable and may have excluded them from potentially beneficial interventions. This is another missed opportunity to obtain pregnancy-specific safety and efficacy data, because therapeutics developed for men and nonpregnant women may not be generalizable to pregnant women. Therefore, authors recommend and urge the scientific community and professional societies that, without clear justification for exclusion, pregnant women should be given the opportunity to be included in clinical trials for COVID-19 based on the concepts of justice, equity, autonomy, and informed consent.	Without clear justification for exclusion, clinical trials to develop therapeutics and vaccines against COVID-19 should include pregnant women.	Costantine MM, Landon MB, Saade GR. Protection by Exclusion: Another Missed Opportunity to Include Pregnant Women in Research During the Coronavirus Disease 2019 (COVID-19) Pandemic [published online, 2020 Apr 24]. Obstet Gynecol. 2020. doi:10.1097/AOG.0000000000003924
asymptomatic COVID-19 infection; intrauterine infection; late pregnancy; vertical transmission; China	24-Apr-20	Asymptomatic COVID-19 infection in late pregnancy indicated no vertical transmission	Journal of Medical Virology	Case Report	In this case report from early in the COVID-19 pandemic, the authors investigate the clinical characteristics and outcomes of asymptomatic COVID-19 in late pregnancy, and discuss the possibility of vertical SARS-CoV-2 transmission. In February 2020, a 22-year-old nulliparous pregnant woman in China was tested for SARS-CoV-2 at 38 weeks' gestation, due to having family members with COVID-19 pneumonia. Her test was positive, so the patient was admitted to the hospital. The patient had no COVID-19 symptoms, and vital signs and fetal ultrasound were normal. Lab tests demonstrated hypoproteinemia, but no other abnormalities. Chest CT showed a small amount of bilateral pleural effusion. The patient had irregular contractions on hospital day 3, and a C-section was performed under spinal-epidural anesthesia, in an isolation operating room. [No obstetric indications for this C-section are mentioned]. A female infant was delivered uneventfully. Nasopharyngeal swabs, oropharyngeal swabs, and blood samples from the infant were all negative for SARS-CoV-2. Amniotic fluid, umbilical cord, and placenta were not tested. The infant was isolated from her mother for 14 days, and was not breastfed. The infant never had COVID-19 symptoms. On postpartum day 8, repeat chest CT on the mother again showed mild bilateral pleural effusion. The patient received umifenovir and recombinant human interferon, followed by 2 negative SARS-CoV-2 tests. The mother and infant were discharged to home on	In this case report from early in the COVID-19 pandemic, the authors investigate the clinical characteristics and outcomes of asymptomatic COVID-19 in late pregnancy. This case showed no indication of vertical viral transmission.	Lu D, Sang L, Du S, Li T, Chang Y, Yang XA. Asymptomatic COVID-19 infection in late pregnancy indicated no vertical transmission. J Med Virol. 2020 Apr 24:10.1002/jmv.25927. doi: 10.1002/jmv.25927. Epub ahead of print. PMID: 32330313; PMCID: PMC7264617.

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					postpartum day 14. In this case of asymptomatic COVID-19 in late pregnancy, there was no indication of vertical viral transmission.		
Pregnancy, neonates, clinical characteristics, preterm birth, vertical transmission, amniotic fluid, cord blood samples, China	23-Apr-20	Coronavirus Disease 2019 (COVID-19) in Pregnant Women: A Report Based on 116 Cases	American Journal of Obstetrics and Gynecology	Case Series	Clinical records were retrospectively reviewed for 116 pregnant women with COVID-19 pneumonia from 25 hospitals in China between January 20 and March 24, 2020. The median gestational age on admission was 38+0 (IQR: 36+0 -- 39+1) weeks. The most common symptoms were fever (50.9%, 59/116) and cough (28.4%, 33/116); 23.3% (27/116) patients presented without symptoms. Abnormal radiologic findings were found in 96.3% (104/108) of cases. There were eight cases (6.9%, 8/116) of severe pneumonia but no maternal deaths. One of eight patients (1/8) that presented in the first- and early-second trimester had a missed spontaneous abortion. 85.9% (85/99) underwent Cesarean delivery and 14.1% (14/99) had a vaginal delivery. For 38.8% (33/85) of those who underwent Cesarean delivery, the indication was COVID-19 pneumonia. Twenty-one of 99 patients (21.2%, 21/99) that had delivered had preterm birth, including six with preterm premature ruptured of membranes. The rate of spontaneous preterm birth before 37 weeks was 6.1% (6/99). There was one case of severe neonatal asphyxia that resulted in neonatal death. Eighty-six of the 100 neonates were tested for SARS-CoV-2; all had negative results. Of these, ten neonates had paired amniotic fluid and cord blood samples that were tested negative for SARS-CoV-2. Six mothers had their vaginal secretion samples tested and were negative. Twelve mothers had their breast milk samples tested and were negative.	Based on this report of 116 cases of pregnant women with COVID-19 in China, SARS-CoV-2 infection during pregnancy was not associated with increased risk of spontaneous abortion and preterm birth. There was no evidence of vertical transmission of SARS-CoV-2 infection during late pregnancy.	Yan J, Guo J, Fan C, et al. Coronavirus disease 2019 (COVID-19) in pregnant women: A report based on 116 cases [published online, 2020 Apr 23]. Am J Obstet Gynecol. 2020. doi:10.1016/j.ajog.2020.04.014
Pregnancy, neonate, obstetric unit, breastfeeding, India	23-Apr-20	Management of the First Patient With Confirmed COVID-19 in Pregnancy in India: From Guidelines to Frontlines	International Journal of Gynecology & Obstetrics	Brief Communication	Data are emerging on the consequences of the infection on mothers and infants. Many guidelines on pregnancy management during the pandemic have been released, but the actual journey to establishing an obstetric isolation unit can be challenging. The present article describes the stepwise informed approach that was taken to rapidly establish a unit for suspected COVID-19 patients within existing resources, and the experience of delivering the first pregnant patient with asymptomatic, confirmed COVID-19 in India. A healthy male neonate was delivered by cesarean section, was breastfed, and tested negative for COVID-19 on day seven.	An OB/GYN department in India describes the process of establishing an obstetric isolation unit, where an asymptomatic pregnant woman with COVID-19 delivered a healthy neonate, who was breastfed and tested negative for COVID-19.	Sharma KA, Kumari R, Kachhawa G, et al. Management of the first patient with confirmed COVID-19 in pregnancy in India: From guidelines to frontlines [published online, 2020 Apr 23]. Int J Gynaecol Obstet. 2020. doi:10.1002/ijgo.13179
Human milk bank, breastfeeding, sanitization, Rome, Italy	23-Apr-20	Use of Disinfectant Wipes to Sanitize Milk's Containers of Human Milk Bank During COVID-19 Pandemic	Journal of Human Lactation	Original Article	This paper reports experience from the Human Milk Bank (HMB) of a children's hospital in Rome, Italy. Donors express milk via mechanical pumps and store milk in sterile single-use plastic containers supplied by the HMB. While milk donation was practically suspended in other Italian cities, drivers at this HMB continue to collect expressed human milk (EHM) directly from donors, once a week. Milk is frozen, then defrosted and pasteurized before use. Breastfeeding information is provided to the mothers via telephone consultation available 8 hours a day. It is recommended that donor mothers suspend donation and be promptly tested if any SARS-CoV-2 symptoms occur; however, SARS-CoV-2 could contaminate the outside of the container, since this virus can be detected for up to 72 hours on plastic and various	A human milk bank from Rome, Italy reports experiences adapting to the COVID-19 era, through less frequent donated milk collection and sanitization of containers.	Rose DU, Reposi MP, Amadio P, et al. Use of Disinfectant Wipes to Sanitize Milk's Containers of Human Milk Bank During COVID-19 Pandemic [published online, 2020 Apr 23]. J Hum Lact. 2020.

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					surfaces. Therefore, the HMB has begun to sanitize EHM containers using disinfectant wipes and gloved hands, which is both feasible and sustainable.		doi:10.1177/0890334420924639
Infant, fever, clinical characteristics, San Francisco	22-Apr-20	Fever Without a Source in a Young Infant Due to SARS-CoV-2	Journal of the Pediatric Infectious Diseases Society	Brief Report	A 5-week-old infant was admitted for fever, without a source (but who had known sick contacts, including her father), at Kaiser Permanente Northern California San Francisco Emergency Department. The infant subsequently tested positive for SARS-CoV-2 based on a combination of oropharyngeal and bilateral nasopharyngeal swab sent for qualitative nucleic amplification. The infant was born full-term and had a history of hydronephrosis and duplex kidney. She had a mild hospital course, without respiratory distress, and fever resolved within 30 hours of hospitalization. She continued to breastfeed while the mother wore a mask.	This unexpected presentation of an infant with fever without a source changed regional hospital screening procedures for COVID-19.	Kan MJ, Grant LMC, Muña MA, Greenhow TL. Fever without a source in a young infant due to SARS-CoV-2 [published online, 2020 Apr 22]. J Pediatric Infect Dis Soc. 2020. doi:10.1093/jpids/piaa044
Neonatal infection, sepsis, mechanical ventilation, pneumothorax, hydroxy-chloroquine, azithromycin	22-Apr-20	Late-Onset Neonatal Sepsis in a Patient With Covid-19	New England Journal of Medicine	Correspondence	A 3-week-old boy presented with a 2-day history of nasal congestion, tachypnea, and reduced feeding. He was born at 36 weeks of gestation to a 21-year-old woman (gravida 3, para 1). On transfer from the emergency department to a pediatric hospital, the patient had hypotension, tachycardia, hypothermia, and tachypnea. Chest radiography performed after intubation showed bilateral infiltrates and partial collapse of the right upper lobe. Transthoracic echocardiography showed normal cardiac anatomy and function. The white-cell count was 4000 per cubic millimeter with 55% lymphocytes; levels of inflammatory markers were elevated. Mechanical ventilation was initiated, and hydroxychloroquine and azithromycin were initiated for presumed COVID-19. On day 2 after admission, the hypotension resolved. A pneumothorax that developed on the right side and was successfully treated by tube thoracostomy. The results of RT-PCR testing to detect SARS-CoV-2 on admission, from nasal swabs, were positive on day 7; he completed the 5-day course of hydroxychloroquine and azithromycin. The patient was discharged on day 9 without supplemental oxygen.	This case illustrates a severe case of neonatal COVID-19 in a 3-week-old boy, who was managed with standard PICU protocols.	Coronado Munoz A, Nawaratne U, McMann D, Ellsworth M, Meliones J, Boukas K. Late-Onset Neonatal Sepsis in a Patient with Covid-19 [published online, 2020 Apr 22]. N Engl J Med. 2020. doi:10.1056/NEJMc2010614
Sexual and reproductive health, fragile settings, humanitarian settings, obstetric and newborn care, breastfeeding	21-Apr-20	Not a luxury: a call to maintain sexual and reproductive health in humanitarian and fragile settings during the COVID-19 pandemic	The Lancet Global Health	Comment	About 1.8 billion people live in fragile contexts worldwide, including 168 million individuals in need of humanitarian assistance. Approximately a quarter of those in fragile contexts are women and girls of reproductive age, with countries affected by fragility and crisis accounting for 61% of maternal deaths worldwide. Experience from past epidemics in these settings has showed that discontinuing health-care services deemed unrelated to the epidemic response resulted in more deaths than did the epidemic itself. Poor health outcomes will surge from the absence or disruption of lifesaving services, including emergency obstetric and newborn care. Early and exclusive breastfeeding and skin-to-skin contact for neonates should be promoted, and mother and neonate should not be separated unless one or both are critically ill in cases of suspected or confirmed COVID-19 infections	Experience from past epidemics in these settings has showed that discontinuing health-care services deemed unrelated to the epidemic response resulted in more deaths than did the epidemic itself.	Nguyen TT, Tappis H, Spilotros N, Krause S, Knaster S, for the Inter-Agency Working Group on Reproductive Health in Crises. Not a luxury: a call to maintain sexual and reproductive health in humanitarian and fragile settings during the COVID-19 pandemic. Lancet. 2020, doi:10.1016/S2214-109X(20)30190-X

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Pregnancy, neonate, cesarean delivery, Portugal	20-Apr-20	Cesarean Section in a Pregnant Woman With COVID-19: First Case in Portugal	Acta Médica Portuguesa	Case Report	Authors report the first cesarean delivery in a woman with COVID-19 at a level III hospital in Portugal. A healthy 35-year-old woman with a term pregnancy tested positive for SARS-CoV-2 infection, on RT-PCR of nasopharyngeal and oropharyngeal swabs, on the day of labor induction. Given a Bishop score < 4 and prior history of a cesarean section, the team decided to perform a surgical delivery. The newborn was separated from his mother immediately after birth. Newborn nasal and oropharyngeal swabs were all negative for SARS-CoV-2. The mother began mechanical breast stimulation to begin breastfeeding after recovering from COVID-19.	No adverse maternal or neonatal outcomes were observed in this case report of cesarean delivery of a newborn by a mother with confirmed COVID-19.	Lyra J, Valente R, Rosário M, Guimarães M. Cesarean Section in a Pregnant Woman with COVID-19: First Case in Portugal [published online, 2020 Apr 20]. Acta Med Port. 2020. doi:10.20344/amp.13883
Maternal-infant dyad, breastfeeding, breast milk samples, Italy	20-Apr-20	Managing COVID-19-Positive Maternal-Infant Dyads: An Italian Experience	Breast-feeding Medicine	Correspondence	This report describes two cases of maternal-infant dyads, in which all four individuals tested positive by nasopharyngeal swab for SARS-CoV-2, at a referral care center in Rome, Italy. Mother 1 and newborn 1 were 36 years old and 18 days old at admission, respectively. Mother 2 and newborn 2 were 26 years old and 10 days old at admission, respectively. Neither the mothers nor the infants required intensive care unit admission. Viral nucleic acid was not detected by RT-PCR in expressed breast milk samples of both mothers. To the authors' knowledge, these are the first data on postnatal horizontal COVID-19 infection in newborns and breast milk analysis in Italy.	This report of two confirmed COVID-19 maternal-infant dyads in Rome, Italy did not find evidence of viral nucleic acid in breast milk samples.	Salvatori G, De Rose DU, Concato C, et al. Managing COVID-19-Positive Maternal-Infant Dyads: An Italian Experience [published online, 2020 Apr 20]. Breastfeed Med. 2020, doi:10.1089/bfm.2020.0095
Children, clinical characteristics, epidemiology, vertical transmission	18-Apr-20	Novel Coronavirus Disease (COVID-19) in Children	Turkish Journal of Medical Sciences	Review Article	According to the current literature, children account for 1-5% of diagnosed COVID-19 cases. Approximately 90% of pediatric patients are diagnosed with asymptomatic, mild, or moderate disease. However, up to 6.7% of cases may be severe. Severe illness is generally seen in patients younger than 1 year of age and patients who have underlying diseases. The epidemiological and clinical patterns of COVID-19 and treatment approaches in pediatric patients still remain unclear. Mother to infant transmission of SARS-CoV-2, through breast milk or vertical transmission, is also controversial. This review summarizes the current epidemic, clinical presentation, diagnosis, and treatment of COVID-19 in pediatric patients.	Authors comprehensively review existing literature on the pathogenesis, transmission, epidemiology, clinical findings, diagnosis, and treatment of COVID-19 in pediatric patients.	Bedir Demirdağ T, Tezer H. Novel Coronavirus disease (COVID-19) in children [published online, 2020 Apr 18]. Turk J Med Sci. 2020. doi:10.3906/sag-2004-174
Neonate, preterm delivery, amniotic fluid sample, maternal death	17-Apr-20	Preterm delivery in pregnant woman with critical COVID-19 pneumonia and vertical transmission	Prenatal Diagnosis	Research Letter	On March 7, 2020, a 22-year-old female (32 weeks' gestation), presented at Imam Khomeini Hospital in Sari, Iran with a 4-day history of dyspnea, myalgia, anorexia, nausea, non-productive cough and fever. The mother's nasopharyngeal swabs tested positive for SARS-CoV-2. On March 11, a preterm female neonate was delivered via cesarean section, weighing 2.35kg; she was kept in an isolated NICU and fed with powdered milk. Umbilical cord blood and neonatal nasal and throat swab samples, collected after delivery, tested negative for SARS-CoV-2 on RT-PCR; whereas, amniotic fluid samples tested positive. 24 hours later, the neonate's nasal and throat swab samples turned positive for SARS-CoV-2. After cesarean delivery, the mother's condition progressively worsened, despite treatment with antivirals and corticosteroids, and she died on March 26.	In this case report from Iran, amniotic fluid and neonatal nasal/throat swab samples tested positive for SARS-CoV-2 following cesarean delivery by a mother with COVID-19. The mother died due to respiratory complications.	Zamaniyan M, Ebadi A, Aghajanpoor Mir S, Rahmani Z, Haghshenas M, Azizi S. Preterm delivery in pregnant woman with critical COVID-19 pneumonia and vertical transmission [published online, 2020 Apr 17]. Prenat Diagn. 2020. doi:10.1002/pd.5713

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Pregnancy, neonates, clinical characteristics, abortions, breast milk samples, China	17-Apr-20	Clinical Characteristics of Pregnant Women With Covid-19 in Wuhan, China	New England Journal of Medicine	Correspondence	From December 8, 2019, to March 20, 2020, 118 pregnant women with COVID-19 in Wuhan were identified in the epidemic reporting system of the National Health Commission of China. 84 women (71%) had positive PCR testing for SARS-CoV-2 infection, and the remaining 34 (29%) had suggestive findings on chest CT. 75 of 118 (64%) had been infected with SARS-CoV-2 in the third trimester. The most common symptoms in 112 women with available data were fever (in 75%) and cough (in 73%). Lymphopenia was present in 51 of 116 patients (44%). A total of 88 of the 111 women (79%) who underwent chest CT had infiltrates in both lungs. A total of 109 of 118 women (92%) had mild disease, and 9 (8%) had severe disease (hypoxemia), 1 of whom received noninvasive mechanical ventilation (critical disease). Severe disease developed in 6 of the 9 women after delivery. There were no deaths. Among the study population, there were 3 spontaneous abortions, 2 ectopic pregnancies, and 4 induced abortions (all owing to patients' concerns about COVID-19). A total of 68 of 118 patients (58%) delivered during the study period and had 70 births (2 sets of twins). Of these 68 patients, 63 (93%) underwent a cesarean section; in 38 of 62 cases (61%), the procedure was performed because of concern about the effects of COVID-19 on the pregnancy. A total of 14 deliveries (21%) were premature; 8 were induced (7 owing to concern about COVID-19). No babies had neonatal asphyxia. SARS-CoV-2 testing of throat swabs from 8 newborns and breastmilk samples from 3 mothers was negative.	In this study of 118 pregnant women with COVID-19, there were no maternal deaths. Of 68 women who delivered during the study period, 63 (93%) underwent cesarean section. All neonates tested negative for COVID-19 infection. Breastmilk samples also tested negative.	Chen L, Li Q, Zheng D, et al. Clinical Characteristics of Pregnant Women with Covid-19 in Wuhan, China [published online, 2020 Apr 17]. N Engl J Med. 2020. doi:10.1056/NEJMc2009226
human reproduction, gametes, SARS-CoV-2, coronaviruses, MERS, SARS, maternal outcomes, preterm delivery	16-Apr-20	Prior and novel coronaviruses, Coronavirus Disease 2019 (COVID-19), and human reproduction: what is known?	Fertility and Sterility	Review	To summarize current understanding of the effects of SARS-CoV-2 and prior coronaviruses on human reproduction and pregnancy, the authors conducted a review of English language publications published up to 6 April 2020. 79 reports formed the basis of the review. Reports indicate decreased sperm concentration and motility for 72–90 days following SARS-CoV-2 infection. Gonadotropin-dependent expression of ACE2 was found in human ovaries, but it is unclear whether SARS-CoV-2 adversely affects female gametogenesis. Comparisons of maternal and fetal outcomes based on available evidence are summarized in a table for COVID-19, SARS, and MERS. COVID-19 has a lower maternal case fatality rate (2%) than SARS (18%) or MERS (25%); however, evidence suggests maternal COVID-19 is associated with higher rates of preterm delivery (38%) when compared with SARS (25%) or MERS (27%). Case reports available at the time of review showed no viral SARS-CoV-2 RNA in placental, umbilical cord blood, amniotic fluid, or breastmilk samples of infected mothers. The authors consider evidence of SARS-CoV-2 vertical transmission to be inconclusive at the time of this review. Several medical treatments for COVID-19 are known either to be safe or non-teratogenic in pregnancy. These include hydroxychloroquine/chloroquine, methylprednisolone/glucocorticoids, and lopinavir-ritonavir. Although non-teratogenic, the use of glucocorticoids in pregnancy has been associated with diabetes, weight gain, preterm premature rupture of membranes, hypertension, and intra-uterine growth restriction. Interferon therapy, often used in hepatitis C treatment, has been well established to be safe in pregnancy. The use of convalescent plasma has been shown to reduce COVID-19 severity; given that its risk profile should be	This review compares available evidence on the effects of SARS-CoV-2 and other coronaviruses on human reproduction and pregnancy, as well as the safety of using currently available treatments for COVID-19 in pregnant patients. While maternal case fatality rates are lower for SARS-CoV-2 than MERS or SARS, evidence suggests SARS-CoV-2 infection is associated with higher rates of preterm delivery.	Segars J, Katler Q, McQueen DB, et al. Prior and novel coronaviruses, Coronavirus Disease 2019 (COVID-19), and human reproduction: what is known?. Fertil Steril. 2020;113(6):1140-1149. doi:10.1016/j.fertnstert.2020.04.025

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					similar to a blood transfusion, there are no overt contra-indications in pregnancy.		
Neonatal infection, viral RNA, South Korea	16-Apr-20	Sequential analysis of viral load in a neonate and her mother infected with SARS-CoV-2.	Clinical Infectious Diseases	Brief Report	This brief report describes changes in viral load over time in a 27-day old neonate with COVID-19 who presented with fever, cough, and vomiting. The virus seemed to be transmitted from one of her family members, and the neonate had been directly breastfed from birth. The neonate was hospitalized on March 8, 2020 and placed in an isolation room with her mother. SARS-CoV-2 RNA was detected in the neonate's nasopharynx, oropharynx, stool, saliva, plasma, and urine. Levels of viral RNA were highest in the nasopharynx, decreased over time, and were undetectable after 17 days from onset of symptoms. SARS-CoV-2 RNA in stool samples remained high until the 18th day since onset, even though the neonate's gastrointestinal symptoms had improved. The virus was not detected in the mother's breast milk.	Nasopharyngeal and stool samples from a neonate remained positive for SARS-CoV-2 until 17 and 18 days after symptom onset, respectively. Viral RNA was not detected in breast milk samples.	Han S, Seong MW, Heo EY, et al. Sequential analysis of viral load in a neonate and her mother infected with SARS-CoV-2 [published online, 2020 Apr 16]. Clin Infect Dis. 2020. doi:10.1093/cid/ciaa447
Covid-19, European Midwives, Pregnancy, Childbirth	15-Apr-20	The European Midwives Association call for action to protect our midwives in delivering best care amidst the COVID-19 pandemic	European Journal of Midwifery	Editorial	This editorial emphasizes the European midwifery organizations' role in supporting midwives to work as safely as possible during the COVID-19 pandemic while allowing them to keep the focus on family-centered care. The authors insist the physical health of staff must be supported with PPE and regular testing for SARS-CoV-2 while mental health is addressed with appropriate support services. Midwifery organizations must remain focused on family centered care in an environment where virtual technology is replacing face-to-face encounters. Midwives must be supported as they address the fears and concerns of pregnant women. These include the concern that birth partners would be banned from birth, fears that births would be electively induced at 40 weeks, or that skin-to-skin contact and breastfeeding might be unnecessarily discouraged as it is considered potentially unsafe. The role of the midwifery organization is to promote the mental and physical health of women and babies, and of midwives working in the community during the COVID-19 pandemic.	This editorial highlights the role of European midwifery organizations in supporting both women and babies, and maternity care professionals during the COVID-19 pandemic.	Vermeulen J, Jokinen M. The European Midwives Association call for action to protect our midwives in delivering best care amidst the COVID-19 pandemic. Eur J Midwifery. 2020 Apr 15;4:10. doi: 10.18332/ejm/120443. PMID: 33537612; PMCID: PMC7839121.
Neonates, clinical symptoms, the USA	15-Apr-20	SARS-CoV-2 Infection in a 2-Week-Old Male With Neutropenia	Clinical Pediatrics	Case report	This case report focuses on a 2-week-old male infant who presented to the pediatric emergency department of Beaumont Hospital, Royal Oak MI, USA, with fever and fussiness. During the 3 days before admission, the mother noted a progressively worsening erythema of the right thumb and fourth digit. Additionally, the patient had been having increased somnolence over the past day and decreased breast milk feeds. There was no nasal congestion, cough, increased work of breathing, vomiting, nor diarrhea. Hematological studies in the infant demonstrated isolated neutropenia with granulocytosis and monocytosis, normal white blood cell, and lymphocyte count, which is atypical when compared with prior novel coronavirus strains. The infant was admitted to the pediatric ICU. On day 1 of admission, the SARS-CoV-2 PCR returned positive. Apart from fever, the patient exhibited no other symptoms of COVID-19. On hospital day 4, the patient discharged home with oral antibiotic therapy for soft tissue infection.	This report highlights the importance of clinical suspicion of COVID-19 in neonates with fever. Neonatal patients should be admitted to a quarantine ward to limit further transmission.	Patek P, Corcoran J, Adams L, Khandhar P. SARS-CoV-2 Infection in a 2-Week-Old Male With Neutropenia. Clin Pediatr (Phila). 2020;59(9-10):918-920. doi:10.1177/0009922820920014

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Pregnancy, breastfeeding, therapeutic trials	15-Apr-20	Importance of inclusion of pregnant and breastfeeding women in COVID-19 therapeutic trials.	Clinical Infectious Diseases	Viewpoint	Investigators are employing unprecedented innovation in the design of clinical trials to rapidly and rigorously assess potentially promising therapies for COVID-19; this is in stark contrast to the continued, near universal, regressive practice of excluding pregnant and breastfeeding women from these trials. The few trials which allow their inclusion focus on post-exposure prophylaxis or outpatient treatment of milder disease, limiting the options available to pregnant women with severe COVID-19 to compassionate use of remdesivir, or off-label drug use of hydroxychloroquine or other therapies. These restrictions were put in place despite experience with these drugs in pregnant women.	This Viewpoint calls attention to the urgent need to engage pregnant women in COVID-19 treatment trials in order to develop data-driven recommendations regarding the risks and benefits of therapies in this unique population.	LaCourse SM, John-Stewart G, Adams Waldorf KM. Importance of inclusion of pregnant and breastfeeding women in COVID-19 therapeutic trials [published online, 2020 Apr 15]. Clin Infect Dis. 2020. doi:10.1093/cid/ciaa444
Pregnancy, vaginal delivery, neonate, maternal-neonatal separation, breastfeeding, Australia	15-Apr-20	COVID-19 Vaginal Delivery - A Case Report	Australian and New Zealand Journal of Obstetrics and Gynaecology	Short Communication	This case report describes an uncomplicated vaginal birth in a SARS-CoV-2 positive mother at a tertiary Australian hospital. To the authors' knowledge, this is also the first case describing a mother with COVID-19 who was not separated from her infant. Management provided supports the current Royal College of Obstetricians and Gynaecologists and World Health Organization guidelines suggesting that it is possible to consider rooming in post-delivery for COVID-19 positive parents. Encouragement of breast feeding appears possible and safe when viral precautions are observed.	The SARS-CoV-2 positive mother described in this case study was not separated from her infant following birth. Breastfeeding was also encouraged with observation of hygiene precautions.	Lowe B, Bopp B. COVID-19 vaginal delivery - a case report [published online, 2020 Apr 15]. Aust N Z J Obstet Gynaecol. 2020. doi:10.1111/ajo.13173
Pregnancy, neonates, TORCH infection, SARS, MERS, vertical transmission	14-Apr-20	SARS-CoV-2: Is it the Newest Spark in the TORCH?	Journal of Clinical Virology	Review	Data are limited on outcomes of COVID-19 disease during pregnancy and consequences for fetuses and newborns. Therefore, information on illnesses associated with other highly pathogenic coronaviruses (i.e. SARS, MERS), as well as comparisons to common congenital infections, such as cytomegalovirus (CMV), are warranted. Research regarding the potential routes of acquisition of SARS-CoV-2 infection in the prenatal and perinatal setting is of a high public health priority. Breast milk acquisition of infection has not been recognized to date, and strategies to ensure that this remains the preferred source of infant nutrition are needed. Vaccines targeting women of reproductive age, and in particular pregnant patients, should be evaluated in clinical trials and should include the endpoints of neonatal infection and disease.	Authors consider limited data on COVID-19 in pregnancy in the context of SARS, MERS, and common congenitally or perinatally acquired TORCH infections, like CMV.	Muldoon KM, Fowler KB, Pesch MH, Schleiss MR. SARS-CoV-2: Is it the newest spark in the TORCH? [published online, 2020 Apr 14]. J Clin Virol. 2020. doi:10.1016/j.jcv.2020.104372
Children, comorbidities, vertical transmission, community transmission, treatment, breastfeeding	14-Apr-20	The Intriguing Features of COVID-19 in Children and Its Impact on the Pandemic	Jornal de Pediatria	Editorial	One of the most striking and consistent findings from COVID-19 reports globally is that, in contrast with infected adults, children rarely experience severe forms of the disease. Available data on COVID-19 severity in children with comorbidities are scarce, limiting the possibility to identify conditions at increased risk of complications and mortality. Although at this time we do not know whether mothers with COVID-19 can transmit the SARS-CoV-2 via breast milk, the WHO, as well as the Brazilian Society of Pediatrics, made clear recommendations supporting mothers to breastfeed their infants. A crucial point for investigation – yet to be determined – is the role of children in transmission. Despite being asymptomatic or oligosymptomatic, infected infants and children may have high viral loads in their nasopharynx, as well as fecal shedding of SARS-CoV-2 for longer periods, thus may play a substantial role in viral community transmission. At the time of writing,	This editorial provides an overview of current literature on notable findings related to COVID-19 in children, highlighting current gaps in data.	Safadi MAP. The intriguing features of COVID-19 in children and its impact on the pandemic [published online, 2020 Apr 14]. J Pediatr (Rio J). 2020. doi:10.1016/j.jped.2020.04.001

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					treatment in children includes fluid and nutritional intake, together with oxygen supplementation and ventilatory support. Due to the rare number of severe cases in children, there is no data on the safety and efficacy of the different therapeutic interventions that are being tested in adults.		
Neonates, clinical characteristics, vertical transmission, breast milk samples, China	13-Apr-20	Clinical Characteristics of 19 Neonates Born to Mothers With COVID-19	Frontiers in Medicine	Research Article	Nineteen neonates were admitted to Tongji Hospital from January 31 to February 29, 2020. Among them, 9 mothers were clinically diagnosed with COVID-19, and 10 mothers had confirmed infection based on RT-PCR testing of throat swab samples. All deliveries occurred in an isolation room, and neonates were immediately separated from their mothers, for at least 14 days. No fetal distress was found. Mean gestational age of the neonates was 38.6 ± 1.5 weeks, and mean birth weight was 3293 ± 425 g. SARS-CoV-2 RT-PCR test results for throat swab, urine, and feces samples of all neonates were negative following birth. RT-PCR test results for breast milk and amniotic fluid samples were also negative. None of the neonates developed clinical, radiologic, hematologic, or biochemical evidence of COVID-19. No vertical transmission of SARS-CoV-2 and no perinatal complications in the third trimester were found.	No evidence of vertical transmission was found in this cohort of 19 neonates born to mothers with clinically diagnosed or laboratory-confirmed COVID-19. Amniotic fluid, cord blood, and breast milk samples all tested negative for SARS-CoV-2.	Liu W, Wang J, Li W, Zhou Z, Liu S, Rong Z. Clinical characteristics of 19 neonates born to mothers with COVID-19 [published online, 2020 Apr 13]. Front Med. 2020. doi:10.1007/s11684-020-0772-y
Pregnancy, HIV, AIDS, PrEP, risk benefit, South Africa	13-Apr-20	Contracting HIV or Contracting SAR-CoV-2 (COVID- 19) in Pregnancy? Balancing the Risks and Benefits	AIDS and Behavior	Editorial	The authors argue that for pregnant women at high-risk of HIV acquisition in South Africa, the benefits for continued PrEP provision and HIV risk reduction counselling in HIV-uninfected pregnant and breastfeeding women outweigh the risk of acquisition and spread of COVID-19. HIV incidence is high during pregnancy and breastfeeding with HIV acquisition risk more than doubling during pregnancy and the postpartum period compared to when women are not pregnant. Additionally, acute maternal HIV infection threatens maternal health and increases the risk of vertical transmission. Though South Africa has the largest SARS-CoV-2 epidemic in Africa, it also has the largest HIV epidemic in the world, with 7.7 million people living with HIV. A final consideration is the growing evidence for increasing sexual activity, intimate partner violence, and rape during the pandemic which could lead to greater risk of HIV acquisition. Therefore, the authors feel that these risks necessitate continued PrEP enrolment, drug provision, and adherence counselling in high risk HIV-uninfected pregnant women in South Africa.	Because of the high prevalence of HIV in South Africa, the authors argue that the benefits of PrEP provision and HIV counseling in uninfected pregnant and breastfeeding women outweigh the risks associated with the COVID-19 pandemic, and therefore these services should continue.	Joseph Davey D, Bekker LG, Coates TJ, Myer L. Contracting HIV or Contracting SAR-CoV-2 (COVID- 19) in Pregnancy? Balancing the Risks and Benefits. AIDS Behav. 2020;24(8):2229-2231. doi:10.1007/s10461-020-02861-x
Pregnancy, neonate, vertical transmission, breast milk samples	11-Apr-20	Unlikely SARS-CoV-2 Vertical Transmission From Mother to Child: A Case Report	Journal of Infection and Public Health	Case Report	Though some studies indicated the risk of vertical transmission of SARS-CoV-2 infection is low, few cases have been reported with comprehensive serial tests from multiple specimens. In this case, a female preterm infant was born to a mother with confirmed COVID-19. The infant presented with mild respiratory distress and received general management and a short period of nasal continuous positive airway pressure support. During her stay at the hospital, a series of SARS-CoV-2 nucleic acid tests from her serum, throat and anal swabs, bronchoalveolar lavage fluid, and urine were negative. Nucleic acid tests of the mother's amniotic fluid, vaginal secretions, cord blood, placenta, serum, anal swab, and breast milk were also negative. The most comprehensively tested case reported to date confirmed that the vertical transmission of COVID is unlikely, but still, more evidence is needed.	Authors state that vertical transmission of COVID-19 is unlikely but advise caution, until further evidence from epidemiological surveillance and experiment studies on transmission potential through birth canal contact and breast milk is available.	Peng Z, Wang J, Mo Y, et al. Unlikely SARS-CoV-2 vertical transmission from mother to child: A case report [published online, 2020 Apr 11]. J Infect Public Health. 2020. doi:10.1016/j.jiph.2020.04.004

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Neonatal infection, vertical transmission, breastfeeding, neonatal providers, respiratory strategies, Brazil	11-Apr-20	Neonatal COVID-19: Little Evidence and the Need for More Information	Jornal de Pediatria	Editorial	The lack of high-quality evidence on neonatal SARS-CoV-2 infection and the steadfast pace of new and conflicting information has been an overall challenge to neonatal intensive care. Internationally and nationally in Brazil, a number of important groups have been diligently working on the development of protocols and guidelines for the neonatal COVID-19 outbreak. Given the constant updating and some conflicting information, health care providers face difficulties in determining best local guidelines. This editorial outlines what is currently known about neonatal infection, vertical transmission, what neonatal health care providers should do about COVID-19, how to provide overall care after birth (including notes on supporting breastfeeding), and respiratory strategies.	Brazilian authors compile existing information on how to care for neonates with SARS-CoV-2 infection, from a variety of national and international sources.	Procianoy RS, Silveira RC, Manzoni P, Sant'Anna G. Neonatal COVID-19: little evidence and the need for more information [published online, 2020 Apr 11]. J Pediatr (Rio J). 2020. doi:10.1016/j.jped.2020.04.002
Human milk, breastfeeding, medical intervention	10-Apr-20	Using the Coronavirus Pandemic as an Opportunity to Address the Use of Human Milk and Breastfeeding as Lifesaving Medical Interventions	Journal of Obstetric, Gynecologic, and Neonatal Nursing	Editorial	The author aims to provide guidance regarding breastfeeding and COVID-19 and reaffirm the importance to promote and protect the use of human milk and breastfeeding. If a mother has any flu -like symptoms, she should wear a mask when near her infant, including during breastfeeding; wash her hands before and after contact; and clean/disinfect all surfaces. If separation of the mother and infant is warranted, the mother should start to express milk immediately to establish and maintain milk supply. If someone who is breastfeeding becomes ill, the infant was already exposed to the virus by the mother and/or family and will benefit most from continued direct breastfeeding. Disruption of breastfeeding will increase the risk of the infant becoming ill because of the lack of immune support. The author emphasizes how breastfeeding and the provision of human milk are recommended by national and international organizations in the current COVID-19 crisis but aims for healthcare providers to leverage breastfeeding as a critical intervention to improve health and developmental outcomes and save the lives of children around the world.	The author provides guidance regarding breastfeeding and COVID-19 including precautions for symptomatic mothers and continuation of breastfeeding after diagnosis. The author argues that healthcare providers should leverage breastfeeding as a critical intervention to improve health and developmental outcomes and save lives.	Spatz DL. Using the Coronavirus Pandemic as an Opportunity to Address the Use of Human Milk and Breastfeeding as Lifesaving Medical Interventions. J Obstet Gynecol Neonatal Nurs. 2020 May;49(3):225-226. doi: 10.1016/j.jogn.2020.03.002.
Neonate, pregnancy, vaginal delivery, serological testing, breast milk samples, vertical transmission, China	10-Apr-20	Vaginal Delivery Report of a Healthy Neonate Born to a Convalescent Mother With COVID-19	Journal of Medical Virology	Short Communication	This case report describes a pregnant woman, who was admitted to Beijing YouAn Hospital on January 29, 2020 (33 weeks 1 day gestation) and diagnosed with COVID-19. She received antiviral, anti-infection, and corticosteroid therapies and recovered following treatment. Follow-up RT-PCR tests were negative, and virus-specific IgG and IgM antibodies in maternal venous blood were positive. Thirty-seven days after diagnosis, a male neonate was delivered successfully by vaginal delivery. RT-PCR testing of breast milk, amniotic fluid, and neonatal throat and rectal samples tested negative. Neonatal sera samples were also negative for IgG and IgM antibodies, and SARS-CoV-2 N protein was not detected in the placenta by immunohistochemical analysis. Findings indicate that there is no intrauterine transmission in a woman who develops COVID-19 pneumonia in late pregnancy.	A neonate, born to a convalescing mother, tested negative for COVID-19 infection. Although virus-specific IgG and IgM were detected in maternal sera following recovery, antibodies were absent in neonatal sera. Breast milk samples also tested negative.	Xiong X, Wei H, Zhang Z, et al. Vaginal Delivery Report of a Healthy Neonate Born to a Convalescent Mother with COVID-19 [published online, 2020 Apr 10]. J Med Virol. 2020. doi:10.1002/jmv.25857
Perinatology, pregnancy, neonates	10-Apr-20	Perinatal Aspects on the Covid-19 Pandemic: A Practical Resource for Perinatal-	Journal of Perinatology	Review	This review presents analysis of literature on COVID-19 using Medline and Google scholar to summarize available evidence on perinatal aspects of COVID-19. From scant data: vertical transmission from maternal infection during the third trimester probably does not occur or likely it occurs very rarely. Consequences of COVID-19 infection among women during early pregnancy remain unknown. Whether or not pregnancy is a risk factor for more severe disease in women with COVID-19 cannot be concluded. Little is	This comprehensive review of available literature on COVID-19 in pregnant women and neonates includes useful links to guidelines and expert opinions, as well as infographics on treatment strategies.	Mimouni F, Lakshminrusimha S, Pearlman SA, et al. Perinatal aspects on the covid-19 pandemic: a practical resource for perinatal-

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		Neonatal Specialists			known about disease severity in neonates, and from very few samples, the presence of SARS-CoV-2 has not been documented in human milk.		neonatal specialists [published online, 2020 Apr 10]. J Perinatol. 2020. doi:10.1038/s41372-020-0665-6
Pregnancy, clinical algorithm, Spanish	9-Apr-20	A Spanish-translated clinical algorithm for management of suspected SARS-CoV-2 infection in pregnant women	The Lancet Infectious Diseases	Correspondence	No standardized guidelines for treating pregnant women with SARS-CoV-2 infection are currently available in Spanish. Authors of this correspondence call for dissemination of the clinical algorithm, proposed by Favre et al. for the management of pregnant women with suspected COVID-19, to Spanish-speaking countries where such information is urgently needed. A translated algorithm in Spanish is proposed in the appendix, and recommendations for breastfeeding are discussed as well.	Authors translate a proposed clinical algorithm for the management of pregnant women with COVID-19 into Spanish.	Martinez-Portilla, RJ, Goncé, A, Hawkins-Villarreal, A, Figueras F. A Spanish-translated clinical algorithm for management of suspected SARS-CoV-2 infection in pregnant women [published online, 2020 Apr 9]. Lancet Infect Dis. 2020. doi:10.1016/S1473-3099(20)30285-1
Pregnancy, neonates, universal testing, breastfeeding, New York City	9-Apr-20	COVID-19 infection among asymptomatic and symptomatic pregnant women: Two weeks of confirmed presentations to an affiliated pair of New York City hospitals	American Journal of Obstetrics & Gynecology MFM	Case Series	Authors describe a series of 43 test-confirmed cases of COVID-19 in pregnant women presenting to a pair of affiliated New York City hospitals over two weeks from March 13 to 27, 2020. Fourteen (32.6%) patients presented without any COVID-associated symptoms and were identified either after developing symptoms during admission or following the implementation of universal testing for all obstetrical admissions on March 22. Of these, 10/14 (71.4%) developed symptoms or signs of COVID-19 infection over the course of their delivery admission or early after postpartum discharge. Of the other 29 (67.4%) patients who presented with symptomatic COVID-19 infection, three women ultimately required antenatal admission for viral symptoms, and an additional patient represented six days postpartum with worsening respiratory status that required oxygen supplementation. There were no confirmed cases of COVID-19 detected in neonates upon initial testing on the first day of life. One neonate had an "indeterminant" test result, which was clinically managed as a "presumptive negative" diagnosis. Another neonate was admitted to the NICU for respiratory distress with concern for sepsis at 37 weeks but tested negative for COVID-19 infection. Healthy newborns either roomed in with their mothers in isolettes whenever possible or were cared for in an isolated nursery. Breastfeeding was encouraged with use of hand hygiene and maternal masking. Applying COVID-19 disease severity characteristics as described by Wu et al, 38 (86%) women possessed mild disease, four (9.3%) exhibited severe disease, and two (4.7%) developed critical disease; these percentages are similar to those described for non-pregnant adults with COVID-19 infections (about 80% mild, 15% severe, and 5% critical disease).	No neonates born to mothers with confirmed COVID-19 were found to have infection when tested on the first day of life. IgG and IgM SARS-CoV-2 testing was not performed. Among the pregnant women, the proportions of mild, severe, and critical disease are similar to those described for non-pregnant adults with COVID-19. Mothers were encouraged to breastfeed with proper precautions. Universal testing of pregnant women upon admission for delivery has potential clinical value, to quickly identify asymptomatic patients.	Breslin N, Baptiste C, Gyamfi-Bannerman C, Miller R, Martinez R, BernsteinK, Ring L, Landau R, Purisch S, Friedman AM, Fuchs K, Sutton D, Andrikopoulou M, Rupley D,Sheen J-J, Aubey J, Zork N, Moroz L, Mourad M, Wapner R, Simpson LL, D'Alton ME, GoffmanD, COVID-19 infection among asymptomatic and symptomatic pregnant women: Two weeks of confirmed presentations to an affiliated pair of New York City hospitals, American Journal of Obstetrics &Gynecology MFM (2020),

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							doi:10.1016/j.ajogmf.2020.100118
Pregnancy, neonates, vertical transmission, breastfeeding, preterm birth	9-Apr-20	Delivery in Pregnant Women Infected With SARS-CoV-2: A Fast Review	International Journal of Gynaecology & Obstetrics	Review Article	This study aims to review the available information on mode of delivery, vertical/peripartum transmission, and neonatal outcome in pregnant women infected with SARS-CoV-2. Searches were conducted used a combination of the following key words: COVID-19, SARS-CoV-2, and pregnancy in Embase and PubMed databases, from January 1 to March 31, 2020. Of 13 included studies reporting on 61 pregnant women, vaginal delivery was reported in 6 cases (9.4%; 95% CI, 3.5–19.3). Worsening of maternal conditions was the indication for cesarean delivery in 31 cases (48.4%; 95% CI, 35.8–61.3). Preterm birth was observed in 19 cases among the 48 for which information on gestational age was available (39.6%; 95% CI, 25.8-54.7). In only two cases, delivery was due to spontaneous preterm labor. Eleven newborns with respiratory disease and two newborns testing positive for SARS-CoV-2 by real-time RT-PCR assay were reported. In three neonates, SARS-CoV-2 IgG and IgM levels were elevated, but the RT-PCR test was negative. The rate of vertical or peripartum transmission of SARS-CoV-2 is low, if any, for cesarean delivery; no data are available for vaginal delivery.	This review of current literature on pregnant women and neonates with COVID-19 suggests that the rate of vertical transmission of SARS-CoV-2 is low, if any, for cesarean delivery. Crucial data are not available for vaginal delivery. Breastfeeding was not generally reported, thus the risk of transmission during breastfeeding is unknown.	Parazzini F, Bortolus R, Mauri PA, Favilli A, Gerli S, Ferrazzi E. Delivery in pregnant women infected with SARS-CoV-2: A fast review [published online, 2020 Apr 9]. Int J Gynaecol Obstet. 2020. doi:10.1002/ijgo.13166
COVID-19; pregnancy; midwifery care	8-Apr-20	Respectful midwifery care during the COVID-19 pandemic	European Journal of Midwifery	Editorial	The authors discussed the need for respectful midwifery care during the COVID-19 pandemic. The International Council of Midwives (ICM) has expressed concerns regarding the violation of the human rights of women, neonates, and midwives, with increasing cases of C-sections, not initiating breastfeeding, and isolating mothers from their birth partners and newborns during the pandemic. In these challenging times, pregnant women and mothers should not feel less safe and discouraged from making decisions for themselves and their infants. Pregnant and laboring women form a vulnerable, but not homogenous, group with fundamental human rights to dignity and respectful, individualized midwifery care, which safeguards both the physical and mental health of the mother-infant dyad. Even if there is a need for further monitoring and interventions, it is essential to provide woman-centered care, establish good communication with mothers, and offer emotional support and stress management.	The authors discussed the need for respectful midwifery care during the COVID-19 pandemic. Pregnant and laboring women form a vulnerable, but not homogenous, group with fundamental human rights to dignity and respectful, individualized midwifery care, which safeguards both the physical and mental health of the mother-infant dyad.	Vivilaki VG, Asimaki E. Respectful midwifery care during the COVID-19 pandemic. Eur J Midwifery. 2020;4:8. doi:10.18332/ejm/120070.
Neonatal resuscitation, post-resuscitation care, pregnancy, perinatal management, breastfeeding	8-Apr-20	Neonatal Resuscitation and Post-resuscitation Care of Infants Born to Mothers with Suspected or Confirmed SARS-CoV-2 Infection.	American Journal of Perinatology	Clinical Opinion	Pregnant women and newborns represent a vulnerable population in the global COVID-19 pandemic. However, the precise impact of this novel virus on the fetus and neonate remains uncertain. There is some disagreement among experts on an optimal approach to protect health care workers and newborns during and after delivery by a COVID-19. Decisions must be based on resource availability, surge volume, and potential risk of transmission. This manuscript outlines the precautions and steps to be taken before, during, and after resuscitation of a newborn born to a COVID-19 mother, including three optional variations of current standards involving shared-decision making with parents for perinatal management, resuscitation of the newborn, disposition, nutrition, and post-discharge care. The availability of resources may also drive the application of these guidelines. More evidence and research are needed to assess the risk of vertical and horizontal transmission of SARS-CoV-2 and its impact on fetal and neonatal outcomes.	This article provides a comprehensive overview of recommendations for perinatal management of pregnant women with confirmed COVID-19 and newborns. Parents should be engaged in shared decision-making with options for rooming in, skin-to-skin contact, and breastfeeding.	Chandrasekharan P, Vento M, Trevisanuto D, et al. Neonatal Resuscitation and Postresuscitation Care of Infants Born to Mothers with Suspected or Confirmed SARS-CoV-2 Infection [published online, 2020 Apr 8]. Am J Perinatol. 2020. doi:10.1055/s-0040-1709688

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Neonatal infection, clinical characteristics, China	8-Apr-20	Novel Coronavirus Infection in Newborn Babies Under 28 Days in China	European Respiratory Journal	Research Letter	Previous studies have described the clinical features of COVID-19 in adults and infants under 1 year of age. Little is known about features, outcomes and intrauterine transmission potential in newborns aged 28 days or less. Through systematic searching, authors identified 4 infections in newborns in China as of March 13, 2020. The age range was 30 hours to 17 days old. Three were male. One newborn had fever and cough, 1 had fever only, 1 had shortness of breath, and 1 had no symptoms. Supportive treatment was provided for all 4 newborns. None required intensive unit care or mechanical ventilation. Three newborns recovered by the end of this study. All 4 mothers were infected with SARS-CoV-2, 3 showing symptoms before and 1 after delivery. Cesarean section was used for all 4 deliveries. Three newborns were separated from their mothers and were not breastfed. In summary, newborns are susceptible to SARS-CoV-2 infection and present milder symptoms and better outcomes compared to adults. Intrauterine vertical transmission is possible, but direct evidence is still lacking.	Based on four cases of neonatal infection, neonates appear susceptible to COVID-19 but experience milder symptoms than adults.	Zhang ZJ, Yu XJ, Fu T, et al. Novel Coronavirus Infection in Newborn Babies Under 28 Days in China [published online, 2020 Apr 8]. Eur Respir J. 2020;2000697. doi:10.1183/13993003.00697-2020
COVID-19; Pregnant women; framework; maternal and child health; professional associations; program design and implementation; special considerations	6-Apr-21	A Framework for Protecting Pregnant Women in the Era of COVID-19 Pandemic	International Journal of Maternal and Child Health and AIDS	Short Research Communication	The authors developed a uni-directional conceptual framework based on program-articulated tasks to positively influence short- and long-term outcomes of program design and implementation for the pregnant population during the COVID-19 pandemic. They divided the perinatal period into 3: the early prenatal, late prenatal, and peripartum periods. The investigators highlighted the following considerations: early prenatal period: prenatal healthcare visits, supplements, avoidance of exposure to toxic substances; late prenatal periods: healthcare appointments, healthcare screenings, reparation for births; peripartum period: potential for vertical transmission, childbirth-related complications, and breastfeeding. Online resources included telemedicine appointments, childbirth education, and child-rearing services. The following factors were found to be important for maintaining good health for pregnant women: environmental factors-built environments, resource availability, social behaviors, testing centers, and insurance coverage; household factors-pandemic planning and preparedness, essential/remote work, health information, and hygiene; online factors- telemedicine appointments, childbirth education, and child-rearing services. Additionally, they recommended continuing vaccinations such as influenza and Tdap (tetanus, diphtheria, pertussis) vaccines to protect both the mother and the infant. Hence, their collective model highlighted the best practices to protect pregnant patients during the COVID-19 pandemic.	IIn this article, the authors present their conceptual framework highlighting practices to protect pregnant populations during the COVID-19 pandemic. They underscored the importance of various factors such as environmental factors (adequate social distancing, face coverings), resource availability (access to testing centers, medical assistance, and insurance coverage), and household factors (pandemic planning and preparedness, and hand hygiene) in maintaining good health for the pregnant population.	Dongarwar D, Ajewole VB, Harris K, et al. A Framework for Protecting Pregnant Women in the Era of COVID-19 Pandemic. Int J MCH AIDS. 2021;10(1):109-112. doi:10.21106/ijma.419
Twin pregnancy, gestational diabetes, high-risk pregnancy, breast milk sample, maternal vaginal secretion sample	6-Apr-20	COVID-19 in pregnancy with comorbidities: More liberal testing strategy is needed	Acta Obstetricia et Gynecolo-gica Scandinavica	Letter to the Editor	This case report describes a 34-year-old primipara with a dichorionic twin pregnancy, who was hospitalized at 36+2/7 weeks' gestation, due to hypertension and proteinuria. On admission, a nasopharyngeal SARS-CoV-2 RNA test was taken. Several hours later, an emergency cesarean section was performed, and two female newborns were delivered in good condition. Following delivery, the mother's RT-PCR test was determined to be positive for SARS-CoV-2 infection. Due to the mother's gestational diabetes (diagnosed at 29 weeks), the twin neonates were fed with formula, and breastfeeding was initiated simultaneously. Both twins had negative nasopharyngeal SARS-CoV-2 RNA tests, taken at 34 hours and 4.5 days of	It is challenging to discriminate between common complications of high-risk pregnancies with comorbidities (e.g. gestational diabetes, preeclampsia) from COVID-19. Neonatal nasopharyngeal swabs, maternal breast milk and vaginal secretions all tested negative for SARS-CoV-2.	Gidlöf S, Savchenko J, Brune T, Josefsson H. COVID-19 in pregnancy with comorbidities: More liberal testing strategy is needed [published online, 2020 Apr 6]. Acta Obstet Gynecol Scand. 2020.

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					age. Breastmilk and maternal vaginal secretion samples also tested negative on the fifth day.		doi:10.1111/aogs.13862
Breastfeeding, expressed mother's milk, neonatology, neonatal management, mother-infant relationship	6-Apr-20	Breast Feeding at the Time of COVID-19: Do Not Forget Expressed Mother's Milk, Please	Archives of Disease in Children: Fetal & Neonatal Edition	Letter	This letter responds to a recent commentary by Li et al. promoting the isolation of all infants with suspected COVID-19 regardless of whether or not they present with symptoms, without details on the management of newborn feeding. Other Chinese colleagues have discouraged the use of expressed breast milk for infants with suspected COVID-19. In Switzerland, Favre et al. suggested the avoidance of direct breastfeeding by COVID-19 positive mothers due to close contact and potential aerosol transmission. However, it is important to consider that the primary concern for risk of transmission is by respiratory droplets, which can be mitigated through basic preventive measures, not by breastmilk. Second, the practice of routine maternal-neonatal separation penalizes their relationship. The use of expressed mother's milk should be considered as a second choice, to rescue the nutritional benefits of breast milk when direct breastfeeding is not recommended. Lastly, in light of limited evidence, breastmilk may contain specific antibodies that modulate eventual SARS-CoV-2 infection.	Protocols applied in maternity hospitals to prevent COVID-19 should consider the promotion of breastfeeding without disregarding the feasible option of expressing mother's milk.	Davanzo R. Breast feeding at the time of COVID-19: do not forget expressed mother's milk, please [published online, 2020 Apr 6]. Arch Dis Child Fetal Neonatal Ed. 2020. doi:10.1136/archdischild-2020-319149
Breastfeeding indications, Italy, Europe	3-Apr-20	Breastfeeding and Coronavirus Disease-2019. Ad interim indications of the Italian Society of Neonatology endorsed by the Union of European Neonatal & Perinatal Societies.	Maternal & Child Nutrition	Review Article	Recommendations from the Italian Society of Neonatology indicate that for a mother with suspected or confirmed COVID-19 who is asymptomatic or pauci-symptomatic at delivery, rooming-in is feasible and direct breastfeeding is advisable under strict measures of infection control. However, when a mother with COVID-19 is too sick to care for the newborn, the neonate should be managed separately and fed fresh expressed breast milk, with no need to pasteurize it since human milk is not believed to be a vehicle of COVID-19. This guidance is subject to change.	Recommendations from Italy align with WHO guidelines surrounding breastfeeding with COVID-19.	Davanzo R, Moro G, Sandri F, et al. Breastfeeding and Coronavirus Disease-2019. Ad interim indications of the Italian Society of Neonatology endorsed by the Union of European Neonatal & Perinatal Societies [published online, 2020 Apr 3]. Matern Child Nutr. 2020;e13010. doi:10.1111/mcn.13010
Breastfeeding, donor milk, donor milk banking, breast pump, surface contamination, disinfection	3-Apr-20	Safe Handling of Containers of Expressed Human Milk in all Settings During the SARS-CoV-2 (COVID-19) Pandemic	Journal of Human Lactation	Insights into Practice and Policy	COVID-19 virus contaminates surfaces from respiratory droplet spread. For known coronaviruses, viral lifespan ranges up to 9 days, depending on volume of inoculation, material inoculated, temperature, and humidity. van Doremalen et al. (2020) found that SARS-CoV-2 was more stable on plastic and stainless steel than on copper and cardboard; viable virus was detected up to 72 hours after application to these surfaces although the virus titer was greatly reduced. Since mothers express their milk into a variety of plastic or glass containers, inadvertent viral spread must be avoided during container transfer to milk banks or other locations, through handwashing guidelines before and after expressing milk. Containers must be disinfected after milk expression with viricidal agents or appropriate bleach solutions (such as "high level disinfection" of 0.5% sodium	This report provides detailed information on recommended disinfection procedures for breast milk containers, among other hygiene precautions for mothers expressing milk.	Marinelli KA, Lawrence RM. Safe Handling of Containers of Expressed Human Milk in all Settings During the SARS-CoV-2 (COVID-19) Pandemic [published online, 2020 Apr 3]. J Hum Lact. 2020.

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					hypochlorite solution, according to WHO) before storage in milk banks, hospital wards, day care centers, or similar locations.		doi:10.1177/0890334420919083
COVID-19; Pandemics; Pregnant; Self-efficacy	1-Apr-21	Information Needs of Pregnant Women in the COVID-19 Pandemic from Experts' Point of View: A Qualitative Study	International Journal of Community Based Nursing and Midwifery	Original Article	This study aims to identify the information needs of pregnant women during the COVID-19 pandemic in Iran. The research team conducted a qualitative assessment to identify the views of 19 experts (mean years of experience = 18.7 years, range 7-35 years) working in the field of obstetric and midwifery services in Isfahan, Iran from April - June 2020. The results showed that the information needs of pregnant women during the COVID-19 pandemic should be set in 4 areas, including 1) Self-efficacy of pregnant women, 2) Information that provokes sensitivity to preventive measures, 3) Awareness of the perceived threat (risk of SARS-CoV-2 transmission), and 4) Awareness of the health system functions in COVID-19 pandemic. The study shows that the self-efficacy of pregnant women depends deeply on being informed of general and specific self-care principles. Additionally, sensitivity could be achieved through the increased risk perception and knowledge on the pandemic. However, pregnant mothers should know the potential threats that could pose risk of vulnerability. While the authors caution mothers to avoid skin contact in the case of maternal SARS-CoV-2 infection, they also state that no risk of transmission via breast milk has been demonstrated. Finally, awareness of the health system functions regarding access to reliable information resources along with provided services at Medical University websites is also recommended.	This study aims to identify the information needs of pregnant women during the COVID-19 pandemic in Iran. The authors conclude that the information needs of pregnant women during the COVID-19 pandemic should be set in 4 areas, including self-efficacy , preventive measures, awareness of the risk of SARS-CoV-2 transmission, and awareness of the health system functions in COVID-19 pandemic.	Rezaei F, Masaeli Z, Atighechian G. Information Needs of Pregnant Women in the COVID-19 Pandemic from Experts' Point of View: A Qualitative Study. *Int J Community Based Nurs Midwifery*. 2021;9(2):139-151. doi:10.30476/IJCBNM.2021.87447.1432
COVID-19; neonatal outcomes; United States	1-Apr-21	Association of Maternal Perinatal SARS-CoV-2 Infection With Neonatal Outcomes During the COVID-19 Pandemic in Massachusetts	Journal of the American Medical Association (JAMA) Network Open	Original Research	This multicenter cohort study in Massachusetts, United States, ascertained the percentage of neonates who were born to mothers with positive SARS-CoV-2 test results during the birth hospitalization (within 14 days before to 72 hrs after delivery), the clinical and sociodemographic factors associated with neonatal test result positivity, and the clinical and virological outcomes for neonates during hospitalization and 30 days after discharge. 255 neonates (mean gestational age at birth=37.9 ± 2.6 weeks) born to 250 mothers (mean age=30.4 ± 6.3 yrs; 48.4% Hispanic; 68% asymptomatic) with positive SARS-CoV-2 test results were identified. 24.3% of neonates were delivered either at low birth weight or preterm. Furthermore, 19.2% required resuscitation at birth, 34.5% were separated from their mothers, and 59.6% were directly breastfed. Only 5 (2.2%) of 225 neonates tested for SARS-CoV-2 had positive results. A high maternal social vulnerability was associated with a higher likelihood of neonatal test result positivity (adjusted OR=4.95; 95% CI 1.53-16.01; p=0.008), adjusted for maternal COVID-19 symptoms, delivery mode, and rooming-in practice. Adverse neonatal outcomes during hospitalization (preterm or low birth weight, very preterm or very low birth weight, delivery room resuscitation, CPAP or mechanical ventilation, and length of stay) were associated with preterm delivery indicated by worsening maternal COVID-19 symptoms (p<0.001 for all). Of	The authors ascertained the percentage of neonates who were born to mothers with positive SARS-CoV-2 test results during the birth hospitalization, the clinical and sociodemographic factors associated with neonatal test result positivity, and the clinical and virological outcomes for neonates during hospitalization and 30 days after discharge. The findings emphasize the importance of both biological and social factors in perinatal SARS-CoV-2 infection outcomes. Newborns exposed to SARS-CoV-2 were at risk for both direct and indirect adverse health outcomes, supporting efforts of ongoing surveillance of the virus and long-term follow-up.	Angelidou A, Sullivan K, Melvin PR, et al. Association of Maternal Perinatal SARS-CoV-2 Infection With Neonatal Outcomes During the COVID-19 Pandemic in Massachusetts. JAMA Netw Open. 2021;4(4):e217523. doi:10.1001/jamanetworkopen.2021.7523.

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					the 151 neonates with follow-up data, 28 had non-routine clinical visits, 7 underwent SARS-CoV-2 testing, and 1 had a positive result. These findings emphasize the importance of both biological and social factors in perinatal SARS-CoV-2 infection outcomes. Newborns exposed to SARS-CoV-2 were at risk for both direct and indirect adverse health outcomes, supporting efforts of ongoing surveillance of the virus and long-term follow-up.		
COVID-19, SARS-CoV-2, breastfeeding	1-Apr-20	COVID-19: PREGNANCY AND BREASTFEEDING	Pacific Journal of Medical Sciences	Commentary	There is limited scientific evidence on the severity of COVID-19 in pregnant women, but most reports indicate that pregnant women experience similar clinical outcomes as non-pregnant women who have progressed to COVID-19 pneumonia. Further, no evidence has shown that SARS-CoV-2 infection during pregnancy has a negative impact on the fetus. Similarly, there is no evidence of transmission of the virus from mother to fetus during pregnancy. Given that there is additionally no evidence of vertical transmission of mother to infant via intra-uterine contact or breast milk, the benefits of breastfeeding outweigh the potential risks. The authors recommend mothers wash hands thoroughly and use a face mask while breastfeeding. Further, mother and infant should maintain physical distance from other people. If the mother is too ill to breastfeed, families should be encouraged and supported to express breastmilk for feeding. Exclusive breastfeeding for the first 6 months of life is essential for healthy growth and development of infants and for maternal health. Thus, it is important that health professionals, especially in low- and middle-income countries, are reminded of the importance to continue to protect, promote and support breastfeeding.	Given a lack of evidence that SARS-CoV-2 is transmitted through breast milk, the author argues that breastfeeding should continue to be a priority for infants. Especially in low- and middle-income countries, breastfeeding is critical for infant development and should be continued given the minute risks.	Goris JM. COVID-19: PREGNANCY AND BREASTFEEDING. Pacific Journal of Medical Sciences. 2020;20(2):17-20.
Pregnancy, uncomplicated delivery, neonate, United States	1-Apr-20	An Uncomplicated Delivery in a Patient with Covid-19 in the United States	New England Journal of Medicine	Correspondence	A 34-year-old woman presented to the labor and delivery unit with a 3-day history of fever, chills, dry cough, and myalgia. She reported decreased fetal movements during the past day. Chest radiographs showed reticular interstitial opacities, and laboratory tests were unremarkable except for lymphopenia. Tests for COVID-19 were determined to be positive 21 hours after samples were obtained. On hospital day 3, she had an uncomplicated spontaneous vaginal delivery. Delayed cord clamping was not performed, and skin-to-skin contact between the mother and infant was not permitted. There was no evidence of neonatal or intra-amniotic infection. The neonate was moved to a separate room and remained there until discharge. The neonate was fed with formula and expressed breast milk.	This case describes an uncomplicated, vaginal delivery of a healthy neonate in a woman with COVID-19. Skin-to-skin contact was not allowed. The neonate was isolated following delivery and fed with formula and expressed breast milk.	Iqbal SN, Overcash R, Mokhtari N, et al. An Uncomplicated Delivery in a Patient with Covid-19 in the United States [published online, 2020 Apr 1]. N Engl J Med. 2020. doi:10.1056/NEJMc2007605
Children, asymptomatic, clinical characteristics, breastfeeding	1-Apr-20	COVID-19 Virus and Children: What Do We Know?	Archives de Pédiatrie	Editorial	As of March 3, 2020, there are more than 900 confirmed pediatric cases, but currently no child under 10 years of age has died; only one individual between 10 and 19 years of age died, and only one child under 1 year old was reported to have a severe form of the disease. The number of confirmed pediatric cases is very low, and the severity and mortality rates are even lower, compared to adults. There is no systematic sampling series in asymptomatic persons, and the age distribution of asymptomatic patients is not detailed in the literature. Do children represent less severe cases, are they less infected, or are they being underdiagnosed as less symptomatic? Symptoms in children include fever, pneumonia, and upper respiratory signs. Symptomatic care is often sufficient, but antibiotic	Based on existing knowledge around COVID-19 in children, this article raises the question of whether children represent less severe cases, are less infected, or are being underdiagnosed as asymptomatic? Breastfeeding is encouraged with appropriate hygiene precautions.	Morand A, Fabre A, Minodier P, et al. COVID-19 virus and children: What do we know?. Arch Pediatr. 2020;27(3):117–118. doi:10.1016/j.arcped.2020.03.001

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					treatment of bacterial superinfection may be necessary. A higher risk of preterm birth is reported in pregnant women, and maternal infection could be involved in neonatal distress; one neonate died, but his specimens tested negative for COVID-19 by RT-PCR. Breastfeeding, with proper hygiene precautions, should be encouraged. If a mother is too tired to breastfeed, milk should be expressed using breast pumps so that a healthy caregiver may feed the infant.		
NICU, donor milk bank, breastfeeding, skin-to-skin contact, United States, CDC, WHO	1-Apr-20	U.S. NICUs and Donor Milk Banks Brace for COVID-19	The Lancet Child & Adolescent Health	Reflections	On March 28, 2020, the first infant death of the U.S. outbreak was announced in Illinois. The U.S. CDC recommends separating newborns from mothers with suspected or confirmed COVID-19. Disruptions in breastfeeding could increase babies' risk of developing necrotizing enterocolitis (NEC), a life-threatening gastrointestinal emergency that can lead to gut perforation and sepsis. Hospital visitor restrictions have further reduced newborns' opportunities for skin-to-skin touch and holding. In contrast with the CDC, WHO guidance on breastfeeding suggests that women with COVID-19 should breastfeed their newborns if they want to do so, while emphasizing respiratory hygiene (mask wearing, handwashing). Pasteurized donor milk is a vital resource for babies in NICUs whose mothers cannot provide breast milk, but donor supplies have become a concern as states and cities issue stay-at-home orders. Hospitals have begun precautionary rationing, allocating donor milk to the smallest and most at-risk preterm infants to prevent NEC.	This article discusses concerns related to breastfeeding, donor milk supply, and skin-to-skin touch during the COVID-19 pandemic. The author notes that human milk lowers risk for newborn necrotizing enterocolitis thus disruptions in breastfeeding may lead to GI emergencies.	Furlow, B. US NICUs and donor milk banks brace for COVID-19. Lancet Child & Adol Health. 2020. https://doi.org/10.1016/S2352-4642(20)30103-6
Infant, isolation room, personal protective equipment, breastfeeding, hygiene precautions	1-Apr-20	Environment and Personal Protective Equipment Tests for SARS-CoV-2 in the Isolation Room of an Infant With Infection.	Annals of Internal Medicine	Letter	SARS-CoV-2 is suspected to spread from an infected person to a susceptible host primarily through droplets and possibly direct contact. The roles of transmission by indirect contact (fomites) or by long-range airborne route are uncertain. In this letter, authors investigate environmental contamination and potential for transmission from a 6-month-old infant with COVID-19, admitted for isolation. The isolation environment and PPE of a health care worker were sampled and tested using PCR. The infant's bedding, cot rail, and table (where baby formula and wipes were placed) situated 1 meter away were found to be positive for SARS-CoV-2, confirming that an infant with COVID-19 but without respiratory symptoms can contaminate the environment through crying or drooling. There was a downward trend of viral load with increasing distance from the infant. Despite close physical contact with the infant during feeding, no evidence of SARS-CoV-2 was detected on the health care worker's gown.	Findings suggest that SARS-CoV-2 positive infants with no respiratory symptoms, can contaminate nearby environments. Hand hygiene when caring for infants with COVID-19 is important to reduce environmental contamination.	Yung CF, Kam KQ, Wong MSY, et al. Environment and Personal Protective Equipment Tests for SARS-CoV-2 in the Isolation Room of an Infant With Infection [published online, 2020 Apr 1]. Ann Intern Med. 2020;M20-0942. doi:10.7326/M20-0942
Breastfeeding, donor milk, donor milk banking, China, Italy, United States	30-Mar-20	International Perspectives Concerning Donor Milk Banking During the SARS-CoV-2 (COVID-19) Pandemic	Journal of Human Lactation	Insights into Practice and Policy	Based on personal communications with colleagues in China, Italy, and the author's own donor milk bank in the United States, the author has attempted to document the pandemic's current effect on donor milk banking as well as donor milk supply and demand. There is heightened anxiety in donors who must interact with the healthcare system to have their blood drawn for screening, or when they drop off their milk at the milk bank. The author's organization is engaged in educating mothers that there is no evidence of coronavirus transmission through human milk and that previous coronaviruses have been destroyed by pasteurization. Other milk banking organizations have issued statements upholding the importance of donor milk and recommending the addition of	This article discusses the effects of the COVID-19 crisis on donor milk banking and details programmatic changes and emergency preparedness strategies implemented at a non-profit U.S. milk bank to ensure sustained supply of donor milk, transport of "safe" milk from donors to milk banks under	Marinelli KA. International Perspectives Concerning Donor Milk Banking During the SARS-CoV-2 (COVID-19) Pandemic [publis+H7hed online ahead of print, 2020 Mar 30]. J Hum Lact. 2020.

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					questions about risk of COVID-19 exposure to donor screening protocols, as well as deferral of donors who report symptoms or test positive for SARS-CoV-2.	quarantine, and support for breastfeeding mothers.	doi:10.1177/0890334420917661
Children, infants, symptoms, case definitions, vertical transmission	27-Mar-20	COVID-19 in the pediatric population [No Abstract and Article not available for free]	Dermatologic Therapy	Letter to the Editor	The authors describe the current knowledge of how the COVID-19 pandemic impacts pediatric populations and what previous cases and studies indicate. Three neonatal cases with COVID-19 were reported and highlight the possibility of COVID-19 vertical transmission to infant during delivery or breastfeeding. A study evaluated 9 hospitalized infants infected with COVID-19 who did not show clinical progression requiring intensive care. Another study showed a high frequency (83.3%) of COVID-19 RNA detection and prolonged virus RNA shedding in feces of pediatric patients for more than 1 month. This highlights a likelihood of poor performance of current case definitions of COVID-19, especially in infants. One study demonstrated that chest imaging alterations in infected children with COVID-19 might occur earlier than clinical symptoms and that allow early identification of the large underdiagnosed suspected pneumonia cases. In conclusion, most of the pediatric patients with COVID-19 have mild symptoms, without fever or pneumonia, and will recover within 1-2 weeks after disease onset.	The authors describe previous cases and studies to explain that most of the pediatric patients with COVID-19 have mild symptoms, without fever or pneumonia, and will recover within 1-2 weeks after disease onset. The authors critique that current case definitions of COVID-19 are poor, particularly for infants.	Abdelmaksoud A, Kroumpouzos G, Jafferany, M, et al. COVID-19 in the pediatric population. Dermatologic Therapy. 2020;33:e13339. doi:10.1111/dth.13339
Serological testing, vertical transmission, IgM / IgG concentrations, cytokine levels, China	26-Mar-20	Antibodies in Infants Born to Mothers With COVID-19 Pneumonia	JAMA	Research Letter	New serological diagnostic criteria (released by the Chinese National Health Commission on Mar 4) were applied to a cohort of 6 pregnant women with confirmed COVID-19, admitted to Zhongnan Hospital, Wuhan from February 16 to March 6, 2020. All six mothers had mild clinical manifestations and cesarean deliveries in their third trimester in negative pressure isolation rooms. Infants were isolated from their mothers immediately after delivery. While neonatal throat swabs and blood samples tested negative for viral nucleic acid by RT-PCR, virus-specific antibodies were detected in the blood serum of all six infants. IgG concentrations (passively transferred across the placenta beginning in the second trimester) were elevated in six infants (not usually passively transferred), and IgM concentrations were detected in two infants. Abnormal weight and pathology of placentas in mothers with SARS have been noted (Ng et al, 2006), but placental damage among women in this study is unknown. IgM could have been produced by the fetus if the virus crossed the placenta. Inflammatory cytokine IL-6 was also significantly increased in all neonatal sera samples.	This research builds upon an earlier cohort study of nine pregnant women from the same hospital (Chen et al, Feb 2020), and contributes new data on serological characteristics of mothers and newborns. The presence of anti-SARS-CoV-2 IgM in 2 infants suggests possible transplacental transmission. Study is limited by lack of cord blood, amniotic fluid, and breast milk data.	Zeng H, Xu C, Fan J, et al. Antibodies in Infants Born to Mothers With COVID-19 Pneumonia [published online ahead of print, 2020 Mar 26]. JAMA. 2020;e204861. doi:10.1001/jama.2020.4861
Serological testing, breastmilk sample, vertical transmission, IgM / IgG concentrations, cytokine levels, China	26-Mar-20	Possible Vertical Transmission of SARS-CoV-2 From an Infected Mother to Her Newborn	JAMA	Research Letter	This case report describes the birth of an infant with elevated anti-SARS-CoV-2 IgM antibodies and cytokine levels, despite no physical contact with a mother with laboratory-confirmed COVID-19. The mother developed COVID-19 symptoms and was admitted to Renmin Hospital, Wuhan on January 28, 2020, where she received antiviral, antibiotic, corticosteroid, and oxygen therapies. RT-PCR tests of the patient's vaginal secretions were negative. An infant girl was delivered on February 22, 2020 by cesarean section in a negative pressure isolation room; she was immediately quarantined in the NICU. At two hours of age, the neonate had elevated IgG and IgM levels (usually appear 3 to 7 days after infection) and abnormal cytokine test results. Mother's breastmilk tested negative by RT-PCR on February 28, but her antibody levels were still elevated one day later. Elevated IgM antibody levels in the neonate suggest that she was infected in utero, during the 23	Elevated IgM levels in a neonate born to a mother with confirmed COVID-19 raise suspicion of transmission in utero. However, the infant's repeatedly negative RT-PCR test results are difficult to explain. Study limitations include lack of amniotic fluid or placenta testing. Infection at delivery cannot be ruled out.	Dong L, Tian J, He S, et al. Possible Vertical Transmission of SARS-CoV-2 From an Infected Mother to Her Newborn [published online ahead of print, 2020 Mar 26]. JAMA. 2020;e204621. doi:10.1001/jama.2020.4621

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					days from the time of the mother's diagnosis to delivery. The elevated IgG level may reflect maternal or infant infection.		
Pregnancy, newborn management, nursing, breastfeeding, neonatal isolation, China	26-Mar-20	Experience of Clinical Management for Pregnant Women and Newborns with Novel Coronavirus Pneumonia in Tongji Hospital, China.	Current Medical Science	Article	During breastfeeding, close attention must be paid to hygiene of hands and breasts. Suspected and confirmed cases of COVID-19 are not recommended to breastfeed, according to clinicians at Tongji Hospital. Breastfeeding is not suggested while taking lopinavir/ritonavir, which can be secreted in the milk of rates. During the suspension of breastfeeding, it is recommended that the mother empties her breasts regularly. Newborns who have been confirmed or are suspected of having SARS-CoV-2 infection should be transferred to an isolation ward for observation or treatment. Only when the mother is found negative on two consecutive nucleic acid tests, and under informed consent, should the mother and child be in the same room.	These guidelines from Tongji Hospital (based on the New Diagnosis and Treatment Scheme for Novel Coronavirus Infected Pneumonia, Trial Edition 5) are consistent with earlier recommendations against breastfeeding for mothers with COVID-19, from other Chinese institutions.	Wang SS, Zhou X, Lin XG, et al. Experience of Clinical Management for Pregnant Women and Newborns with Novel Coronavirus Pneumonia in Tongji Hospital, China [published online ahead of print, 2020 Mar 26]. Curr Med Sci. 2020. doi:10.1007/s11596-020-2174-4
Pregnancy, pathophysiology, vertical transmission, breastfeeding, skin-to-skin contact	23-Mar-20	Coronavirus Disease 2019 (COVID-19) Pandemic and Pregnancy	American Journal of Obstetrics & Gynecology	Special Report	To date, the outcomes of 55 pregnant women and 46 neonates infected with COVID-19 have been reported in the literature, with no concrete evidence of vertical transmission. Physiological and mechanical changes in pregnancy increase susceptibility to infections in general, particularly when the cardiorespiratory system is affected. Pregnancy bias towards Th2 system dominance, which protects the fetus, leaves the mother vulnerable to viral infections, which are more effectively contained by the Th1 system. Although data doesn't suggest risk of vertical transmission, delayed clamping of the umbilical cord and skin-to-skin contact should be avoided following delivery. Breastfeeding is not contraindicated based on retrospective analysis of COVID-19 in pregnancy that showed absence of detectable viral loads of SARS-CoV-2 in breastmilk. Regardless, a face mask should be worn due to the close proximity between mother and child to reduce the risk of droplet transmission. The presence of coronavirus antibodies in breastmilk depends on the gestation at which maternal infection occurred and if there was any preceding use of high-dose corticosteroids which could suppress maternal antibody responses.	There is no definitive evidence of vertical transmission, but skin-to-skin contact should be avoided following delivery. Breastfeeding is not contraindicated, but a face mask should be worn.	Dashraath P, Jing Lin Jeslyn W, Mei Xian Karen L, et al. Coronavirus Disease 2019 (COVID-19) Pandemic and Pregnancy [published online ahead of print, 2020 Mar 23]. Am J Obstet Gynecol. 2020. doi:10.1016/j.ajog.2020.03.021
Infant, secondary transmission, Vietnam	23-Mar-20	The first infant case of COVID-19 acquired from a secondary transmission in Vietnam	The Lancet Child & Adolescent Health	Case Report	A 3-month-old, female patient presented with mild upper respiratory symptoms and fever. Her nasopharyngeal swab samples tested positive for SARS-CoV-2 by RT-PCR. She was exclusively breastfed, and her immunizations were up to date. The infection was transmitted secondarily from a close contact with confirmed COVID-19 in the family. However, unlike reported family clusters where the youngest child was not infected or asymptomatic, this patient was the youngest member in the family who acquired the disease with symptoms.	Unlike earlier reported cases in China, this patient was the youngest member in her family cluster to acquire disease.	Le HT, Nguyen LV, Tran DM, et al. The first infant case of COVID-19 acquired from a secondary transmission in Vietnam [published online, 2020 Mar 23]. Lancet Child Adolesc Health. 2020. doi:10.1016/S2352-4642(20)30091-2

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Perinatal transmission, breastmilk samples, breastfeeding, neutralizing antibodies	17-Mar-20	Perinatal Transmission of COVID-19 Associated SARS-CoV-2: Should We Worry?	Clinical Infectious Diseases	Brief Report	This paper presents two cases of COVID-19 associated SARS-CoV-2 infection during the third trimester of pregnancy. Newborns showed no abnormalities at birth, and mothers had excellent outcomes. It is possible that mothers developed sufficient neutralizing antibodies, without developing serious conditions. These antibodies may have a passively protective effect on children through breastfeeding. Despite the fact that SARS-CoV-2 was not detected in consecutive breastmilk or neonatal specimens, breastfeeding was still discouraged.	Authors bring up the potential protective effect of neutralizing antibodies transmitted to newborns through breastmilk, however breastfeeding was still discouraged for the mothers with COVID-19 in this report.	Cuifang Fan, Di Lei, Congcong Fang et al., Perinatal Transmission of COVID-19 Associated SARS-CoV-2: Should We Worry?, Clinical Infectious Diseases, 17 March 2020, ciaa226, https://doi.org/10.1093/cid/ciaa226
Neonatal infection, pneumonia, liver injury, heart damage, breastmilk sample	17-Mar-20	A 55-Day-Old Female Infant infected with COVID 19: presenting with pneumonia, liver injury, and heart damage	The Journal of Infectious Diseases	Brief Report	A 55-day-old, otherwise healthy, female infant that received mixed feeding became ill January 28, 2020. The infant and her parents had contact with relatives who had symptoms like cough and fever 10 days before. The child's parents were diagnosed with COVID-19 on January 31, and three consecutive tests of SARS-CoV-2 RNA in the breast milk of the mother were negative between February 2 to February 4.	In line with previous studies, breastmilk samples from a mother with SARS-CoV-2 infection tested negative.	Cui, Y, Tian M, Huang D et al. A 55-Day-Old Female Infant infected with COVID 19: presenting with pneumonia, liver injury, and heart damage, The Journal of Infectious Diseases, 17 March 2020, jiaa113, https://doi.org/10.1093/infdis/jiaa113
Pregnancy, neonatal infection, formula feeding, vertical transmission, China	16-Mar-20	Infants Born to Mothers With a New Coronavirus (COVID-19).	Frontiers in Pediatrics	Case Report Article	This case report describes the birth of four full-term infants born to pregnant women with laboratory-confirmed COVID-19 in Wuhan, Hubei province, China. Of three infants with test results, none tested positive for the virus. None developed serious clinical symptoms. Two infants had rashes of unknown etiology at birth, and one had facial ulcerations. One infant had tachypnea and was supported by non-invasive mechanical ventilation for 3 days. One had rashes at birth but was discharged without parental consent for a diagnostic test. All four infants are doing well and have been formula feeding since birth.	Consistent with growing literature, there is no evidence of vertical transmission. Placenta, amniotic fluid, neonatal blood, gastric fluid, and anal swabs tested negative for viral RNA.	Chen Y, Peng H, Wang L, Zhao Y,Zeng L, Gao H and Liu Y. Infants Born to Mothers With a NewCoronavirus (COVID-19). 2020. Front. Pediatr. 8:104. doi: 10.3389/fped.2020.00104
Pregnancy, neonates, infection control	13-Mar-20	What are the risks of COVID-19 infection in pregnant women?	The Lancet	Review	This article reviews a small number of published cases that have analyzed COVID-19 in pregnant women and neonates, discussing expert recommendations for infection control among confirmed cases.	This article re-states the findings from other case studies on COVID-19 in pregnant women and neonates.	Qiao J. What are the risks of COVID-19 infection in pregnant women?. Lancet. 2020;395(10226):760–762. doi:10.1016/S0140-6736(20)30365-2

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Neonatal infection	12-Mar-20	A case report of neonatal COVID-19 infection in China.	Clinical Infectious Diseases	Brief Report	A neonate tested positive for COVID-19 infection by RT-PCR assay, using pharyngeal samples, 36 hours after delivery via emergency cesarean section. The mother was wearing an N95 mask throughout the operation, and the infant had no contact with the mother after birth. Breastfeeding was discouraged, while emptying her breasts of milk was encouraged to avoid mastitis. The mother's breast milk sample, which was collected 36 hours after birth, tested negative for the virus.	In line with previous studies, there was no concrete evidence of vertical transmission, and the breast milk samples from a mother with confirmed COVID-19 tested negative.	Wang, S., Guo, L., Chen, L., Liu, W., Cao, Y., Zhang, J., & Feng, L. (2020). A case report of neonatal COVID-19 infection in China. Clinical Infectious Diseases, 12 March 2020, ciaa225, https://doi.org/10.1093/cid/ciaa225
Breastfeeding, remdesivir, antiviral therapy, influenza, Ebola	9-Mar-20	Breastfeeding and Respiratory Antivirals: Coronavirus and Influenza.	Lactation Medicine	Commentary	Remdesivir shows promising activity against COVID-19. Nothing is known about the passage of remdesivir into breast milk, but one infant with Ebola was treated with IV remdesivir following treatment with the monoclonal antibody ZMapp and a buffy coat transfusion from an Ebola survivor. The infant experienced no adverse effects and was virus free on day 20 of life.	Little is known about the passage of antivirals (including those suggested to treat COVID-19) into breastmilk.	Anderson, P. O. (2020). Breastfeeding and Respiratory Antivirals: Coronavirus and Influenza. Breastfeeding Medicine. doi:10.1089/bfm.2020.29149.poa
Vertical transmission, pregnancy, breastmilk sample, placenta sample, China	5-Mar-20	Lack of vertical transmission of severe acute respiratory syndrome coronavirus 2, China.	Emerging Infectious Diseases	Research Letter	A 30-year-old pregnant woman, confirmed positive for SARS-CoV-2 infection, delivered an infant by cesarean section at 35 weeks gestation, in a negative-pressure operating room. An oropharyngeal swab specimen, obtained immediately after the infant was taken from the uterus, indicated that the infant was negative for SARS-CoV-2, and was sent to the negative-pressure ward. On the delivery day, although the woman's sputum was positive, serum, urine, feces, amniotic fluid, umbilical cord blood and placenta, and breast milk samples were negative.	Sputum samples from a woman with confirmed COVID-19 tested positive following delivery, while amniotic fluid, umbilical cord blood, placenta, and breast milk samples tested negative.	Li Y, Zhao R, Zheng S, Chen X, Wang J, Sheng X, et al. Lack of vertical transmission of severe acute respiratory syndrome coronavirus 2, China. Emerging infectious diseases, 26(6). 5 March 2020. https://doi.org/10.3201/eid2606.200287
Pregnancy, neonatal infection	5-Mar-20	Novel coronavirus infection and pregnancy.	Ultrasound in Obstetrics & Gynecology	Opinion	This paper discusses the current guidelines in China that recommend newborn separation from their infected mothers for at least 14 days following birth. These restrictions make direct breastfeeding unfeasible; however, the mothers are advised to express their breastmilk in order to maintain milk production. Once they test negative for COVID-19, they should be encouraged to breastfeed their infant.	As noted in other protocols from China, breastfeeding is discouraged while breastmilk expression is encouraged in order to maintain milk production.	Yang, H., Wang, C., & Poon, L. C. (2020). Novel coronavirus infection and pregnancy. Ultrasound in Obstetrics & Gynecology. 5 March 2020. https://doi.org/10.1002/uog.22006
Pregnancy, WHO, CDC, expert guidance, China	5-Mar-20	Novel corona virus disease (COVID-19) in pregnancy: What clinical recommendations to follow?	Acta Obstetricia et Gynecologica Scandinavica	Special Editorial	This editorial presents a set of recommendations based on WHO, CDC, and expert Chinese guidance, with regard to prevention, diagnosis, management, timing and mode of delivery, and care of infants born to mothers with COVID-19. Limited data suggests that transplacental transmission is unlikely in late pregnancy, but infection can occur in neonates via close contact. Early cord clamping and temporary separation of the newborn for at least 2 weeks is recommended. During this period, direct	The guidelines in this editorial fall in line with previously stated Chinese guidance on breastfeeding but contradict the WHO's recommendations to allow mothers with COVID-19 to choose to continue to breastfeed.	Liang H, Acharya G. Novel corona virus disease (COVID-19) in pregnancy: What clinical recommendations to follow?

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					breast feeding is not recommended, but a mother can pump her breast milk, which can be used to feed the neonate by a healthy caregiver.		Acta Obstet Gynecol Scand. 2020;99(4):439–442. doi:10.1111/aogs.13836
Neonates, prevention, infection control, breastfeeding	4-Mar-20	Proposal for prevention and control of the 2019 novel coronavirus disease in newborn infants	Archives of Disease in Childhood - Fetal and Neonatal Edition	Letter	This article outlines recommendations regarding newborns: Infants with highly suspected or confirmed COVID-19 should be referred to the designated neonatal ward. All medical staff involved should wear protective equipment. The neonatal department should be strictly stratified into transitional, quarantine, living and work areas. Infants with suspected infections should be isolated in a single room, while confirmed patients should be moved into separate rooms. After admission, avoiding breastfeeding from COVID-19 mother until recovery should be adequately performed.	Recommendations outlined in this letter discourage breastfeeding until after recovery.	Li F, Feng ZC, Shi Y. Proposal for prevention and control of the 2019 novel coronavirus disease in newborn infants Archives of Disease in Childhood - Fetal and Neonatal Edition Published Online First: 04 March 2020. doi: 10.1136/archdischild-2020-318996
Pregnancy, viral shedding, breastfeeding	3-Mar-20	Guidelines for pregnant women with suspected SARS-CoV-2 infection.	The Lancet Infectious Diseases	Correspondence	This guideline points out that newborns of mothers confirmed positive for SARS-CoV-2 should be isolated for at least 14 days or until viral shedding clears, during which time direct breastfeeding is not recommended.	Authors do not recommend direct breastfeeding for newborns of mothers confirmed positive for SARS-CoV-2.	Favre, G., Pomar, L., Qi, X., Nielsen-Saines, K., Musso, D., & Baud, D. (2020). Guidelines for pregnant women with suspected SARS-CoV-2 infection. The Lancet Infectious Diseases. 03 March 2020. https://doi.org/10.1016/S1473-3099(20)30157-2
Infant, viral load, nasopharynx, breastmilk sample	28-Feb-20	A Well Infant with Coronavirus Disease 2019 (COVID-19) with High Viral Load	Clinical Infectious Diseases	Brief Report	A well 6-month-old boy was referred to KK Women's and Children's Hospital (KKH) on February 4, 2020, and a nasopharyngeal specimen taken on admission and tested by RT-PCR confirmed the diagnosis of COVID-19 infection. His mother's symptoms started on January 29, 2020 and the first nasopharyngeal swab on February 3, 2020 was positive for SARS-CoV-2. Breastmilk samples on February 8, 2020 were negative. The infant likely acquired the virus from a household member, but it was difficult to ascertain the day of infection as there were no reported symptoms.	Breastmilk samples, collected from a breastfeeding mother with confirmed COVID-19 infection, tested negative several days after her diagnosis.	Kai-qian Kam, Chee Fu Yung, Lin Cui, Raymond Lin Tzer Pin, Tze Minn Mak, Matthias Maiwald, Jiahui Li, Chia Yin Chong, Karen Nadua, Natalie Woon Hui Tan, Koh Cheng Thoon, A Well Infant with Coronavirus Disease 2019 (COVID-19) with High Viral Load. Clinical Infectious Diseases, 28 February

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							2020, ciaa201, https://doi.org/10.1093/cid/ciaa201
Pregnancy, infant, premature birth	28-Feb-20	A case of 2019 Novel Coronavirus in a pregnant woman with preterm delivery	Clinical Infectious Diseases	Brief Report	On February 2, 2020, a 28-year-old female, who was 30 weeks pregnant, presented to a fever clinic of Suzhou Municipal Hospital with intermittent fever for one week. Two throat swab samples were collected and tested negative. On February 6, the second SARS-CoV-2 RT-PCR results of her sputum came back positive. A preterm male infant was delivered at 30 weeks of pregnancy. On day 3 after cesarean section, RT-PCR analyses of the neonatal throat swab and stool samples were COVID-19 negative. He was kept in the isolation ICU of the neonatal nursery for observation, without any contact with his mother after birth. The newborn was given formula instead of breast milk ever since. Samples of breastmilk were not taken for testing.	A report from a hospital in China describes management of a newborn with confirmed COVID-19, who was isolated from his mother and fed formula, rather than breastmilk. Breastmilk samples for testing were notably missing.	Wang, X., Zhou, Z., Zhang, J., Zhu, F., Tang, Y., Shen, X., & Shen, X. (2020). A case of 2019 Novel Coronavirus in a pregnant woman with preterm delivery. Clinical Infectious Diseases, 28 February 2020, ciaa200, https://doi.org/10.1093/cid/ciaa200
Pregnancy, perinatal infection, breast milk sample, vertical transmission	25-Feb-20	Coronavirus Disease 2019 (COVID-19) During Pregnancy: A Case Series.	Preprints	Case Series	This case series was conducted in the obstetric ward of Tongji Hospital. Systematic testing for SARS-CoV-2 infection included oropharyngeal swab, placenta tissue, vaginal mucus, and breast milk of mothers, as well as oropharyngeal swab, umbilical cord blood, and serum of newborns. All patients showed an uneventful perinatal course, successful outcomes, and no evidence of vertical transmission.	This case series presents the most comprehensive virological assessment of pregnant women and newborns to date. There was no evidence of vertical transmission.	Liu, W.; Wang, Q.; Zhang, Q.; Chen, L.; Chen, J.; Zhang, B.; Lu, Y.; Wang, S.; Xia, L.; Huang, L.; Wang, K.; Liang, L.; Zhang, Y.; Turtle, L.; Lissauer, D.; Lan, K.; Feng, L.; Yu, H.; Liu, Y.; Sun, Z. Coronavirus Disease 2019 (COVID-19) During Pregnancy: A Case Series. Preprints 2020, 2020020373
Pregnancy, obstetrics, coronaviruses, SARS-CoV antibodies in breastmilk	24-Feb-20	Coronavirus Disease 2019 (COVID-19) and Pregnancy: What Obstetricians Need to Know	American Journal of Obstetrics & Gynecology	Expert Review	This expert review draws upon information on other pathogenic coronaviruses (SARS, MERS) to provide insight into effects of COVID-19 on pregnancy. A single report of SARS-CoV testing of breastmilk (approximately 130 days after illness onset) exists: no viral RNA was detected, but SARS-CoV antibodies were seen (Robertson et al, 2004). In another patient with SARS-CoV, at 7 weeks gestation, antibodies were not seen when breastmilk was tested at postpartum days 12 and 30 (Stockman et al, 2004). Until additional data are available, mothers who are well enough to express breastmilk should be encouraged to do so; breastfeeding can be instituted after she is no longer infectious.	In a 2004 report on SARS-CoV testing of breastmilk, antibodies were detected, but viral RNA was not. Expert authors recommend that breastfeeding should be initiated after a mother is no longer infectious.	Rasmussen SA, Smulian JC, Lednicky JA, et al. Coronavirus Disease 2019 (COVID-19) and Pregnancy: What obstetricians need to know [published online ahead of print, 2020 Feb 24]. Am J Obstet Gynecol. 2020. doi:10.1016/j.ajog.2020.02.017

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Neonatal infection, gastrointestinal symptoms, clinical manifestation, China	16-Feb-20	SARS-CoV-2 infection with gastrointestinal symptoms as first manifestation in a neonate	Chinese Journal of Contemporary Pediatrics	Case Study in Mandarin; Abstract in English	A neonate with SARS-CoV-2 infection presented with initial symptoms of vomiting and milk refusal. After two weeks of treatment at Wuhan Children's Hospital, the patient gradually recovered and was discharged.	Neonates may present with primarily gastrointestinal symptoms (such as milk refusal and vomiting), rather than respiratory symptoms.	Wang J, Wang D, Chen GC, Tao XW, Zeng LK. Zhongguo Dang Dai Er Ke Za Zhi. 2020;22(3):211–214.
Pregnancy, vertical transmission, breastmilk sample, China	12-Feb-20	Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records.	The Lancet	Original Article	This article presents a retrospective review of laboratory results and CT scans from nine pregnant women with COVID-19 pneumonia admitted to Zhongnan Hospital of Wuhan University from Jan 20 to Jan 31, 2020. All women tested positive for SARS-CoV-2 by use of quantitative RT-PCR (qRT-PCR) on samples from the respiratory tract. The nine pregnant women were in their third trimester, and all underwent caesarean section. Six samples of amniotic fluid, cord blood, neonatal throat swab, and breastmilk collected after their first lactation tested negative for the presence of SARS-CoV-2, using both the CDC-recommended test kit and the in-house tested RT-PCR assays.	No evidence for intrauterine infection caused by vertical transmission in women who develop COVID-19 pneumonia in late pregnancy. Six breastmilk samples tested negative for viral nucleic acid.	Chen, H., Guo, J., Wang, C., et al. (2020). Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. The Lancet 2020 Feb 12, 395(10226), 809-815. [e-pub]. https://doi.org/10.1016/S0140-6736(20)30360-3
Neonatal infection, breastmilk sample, China	11-Feb-20	2019-novel coronavirus infection in a three-month-old baby	Chinese Journal of Pediatrics	Case Study in Mandarin; Abstract in English	An infant was breastfed after birth, with normal growth and good health status. The infant was admitted to a hospital in Xiaogan, Hubei Province, on January 26, 2020 and continued to be breastfed. She tested positive for COVID-19 one day later. Nasopharyngeal swab specimens collected from the parents on January 26 initially tested negative, but the parents were diagnosed with infection one week later. In this case, viral nucleic acid was detected in the stool of the mother, but no viral nucleic acid was detected in breastmilk or urine.	This case study raises the question of shorter incubation periods in neonates compared to adults. Notably, breastmilk samples tested negative for viral nucleic acid.	Zhang, Y. H., Lin, D. J., Xiao, M. F., et al. (2020). 2019-novel coronavirus infection in a three-month-old baby. Chinese journal of pediatrics, 2020 Feb 11;58(0):E006. DOI: 10.3760/cma.j.issn.0578-1310.2020.0006.
Perinatal and neonatal management, prevention, China	6-Feb-20	Chinese expert consensus on the perinatal and neonatal management for the prevention and control of the 2019 novel coronavirus infection (First edition).	Annals of Translational Medicine	Expert Consensus	The possibility of the vertical transmission of 2019-nCoV cannot be ruled out. Infants should not be fed with breast milk from mothers with confirmed or suspected of 2019-nCoV. If the suspected or diagnosed mother and her breast milk test negative for 2019-nCoV, infants should be fed with breast milk. Donor milk can be considered for use after being screened for 2019-nCoV, because the virus may be excreted into the milk during the incubation period.	Chinese expert consensus recommends that infants should not be fed with breast milk from mothers with confirmed or suspected 2019-nCoV. Donor milk can be considered after screening for 2019-nCoV.	Wang L, Shi Y, Xiao T et al.; on behalf of the Working Committee on Perinatal and Neonatal Management for the Prevention and Control of the 2019 Novel Coronavirus Infection. Chinese expert consensus on the perinatal and neonatal management for the prevention and

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							control of the 2019 novel coronavirus infection (First edition). Ann Transl Med 2020;8(3):47. doi: 10.21037/atm.2020.02.20
Children, viral pneumonia, pediatric management, prevention, China	4-Feb-20	Management plan for prevention and control of novel coronavirus pneumonia among children in Xiangya Hospital of Central South University.	Chinese Journal of Contemporary Pediatrics	Article in Mandarin; Abstract in English	Under the organization of the Xiangya Hospital of Central South University, the Department of Pediatrics has formulated an action plan with Xiangya unique model to prevent and control novel coronavirus pneumonia (NCP) among children according to the current epidemic situation and diagnostic and therapeutic program in China. For perinatal newborns, breastfeeding is not recommended for infants born to women who are suspected or confirmed with NCP, but the women should express milk regularly to ensure lactation. Breastfeeding is not feasible until infected mothers are cured.	Clinicians at Xiangya Hospital in China do not recommend breastfeeding for infants born to women with suspected or confirmed COVID-19 pneumonia. Women should express milk regularly to ensure lactation.	Peng, J., Wang, X., Yang, M. H., et al. (2020). Management plan for prevention and control of novel coronavirus pneumonia among children in Xiangya Hospital of Central South University. Zhongguo dang dai er ke za zhi, 22(2), 100-105. 2020 Feb. DOI: 10.7499/j.issn.1008-8830.2020.02.004
Newborn management, emergency response plan, NICU, China	2-Feb-20	Emergency response plan for the neonatal intensive care unit during epidemic of 2019 novel coronavirus.	Chinese Journal of Contemporary Pediatrics	Article in Mandarin; Abstract in English	For each infant admitted to the hospital, health workers ask his/her mother, family members, caregivers, and people who have been in contact: 1) whether they are 2019-nCoV confirmed or suspected cases; 2) whether they visited an epidemic areas in the past 2 weeks, especially Wuhan, Hubei Province; 3) whether they have been in close contact with patients with respiratory infections in the past 2 weeks; 4) whether they have been in close contact with wild animals in the past 2 weeks. If any of the above conditions are met, the infant will be placed in a single room and observed for 14 days. During the observation period, in order to reduce risk, breastfeeding by mothers confirmed with COVID-19 is not recommended.	This Pediatric Committee's emergency response plan advises against breastfeeding for newborns who are under observation for 14 days, following screening for exposure.	Pediatric Committee. Emergency response plan for the neonatal intensive care unit during epidemic of 2019 novel coronavirus. Chinese journal of contemporary pediatrics, 22(2), 91. 2020 Feb. DOI: 10.7499/j.issn.1008-8830.2020.02.002
Primary healthcare settings, prevention guidance, rural China	1-Feb-20	Guidance on the Control and Prevention of SARS-CoV-2 Infection in Primary Healthcare Settings in Rural China (First Edition).	Chinese General Practice	Article in Mandarin; Abstract in English	Mothers who are isolated at home, following evaluation by medical staff at a primary health institution, can continue breastfeeding, but they must wear medical masks properly and practice hand hygiene using soap and water or hand disinfectants containing alcohol.	These guidelines pertain to breastfeeding mothers during home isolation.	Zhang D Y, Yao M, Wang J, et al. Guidance on the Control and Prevention of SARS-CoV-2 Infection in Primary Healthcare Settings in Rural China (First Edition). Chinese General Practice,

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							2020, 23(7): 763-769. DOI: 10.12114/j.issn.1007-9572.2020.00.246
Perinatal and neonatal management, prevention, China	1-Feb-20	Perinatal and neonatal management plan for prevention and control of 2019 novel coronavirus infection (1st Edition).	Chinese Journal of Contemporary Pediatrics	Article in Mandarin; Abstract in English	Pregnant women with COVID-19 in critical condition should be isolated from infants for 14 days after delivery. After the mother is cured, breastfeeding can be initiated. High-risk infants, including those who have been in close contact with confirmed family members and caregivers, or have been exposed to sources of infection in public places, are not recommended to breastfeed. If they are fed with donor milk, the milk should be pasteurized.	This editorial from a working group for the prevention and control of neonatal 2019-nCoV in China states that breastfeeding should be avoided for infants born to mothers with confirmed COVID-19 infection, until after the mother is cured.	Working Group for the Prevention and Control of Neonatal 2019-nCoV Infection in the Perinatal Period of the Editorial. Perinatal and neonatal management plan for prevention and control of 2019 novel coronavirus infection (1st Edition). Chinese Journal of Contemporary Pediatrics, 2020, 22(2): 87-90. DOI: 10.7499/j.issn.1008-8830.2020.02.001