

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
<p><i>The expected date for the next update is Friday, September 4<sup>th</sup>, 2020 at 1 pm USA ET. New publications since our last update have been highlighted in YELLOW (51 new ones since August 7<sup>th</sup>, 2020). We can explain this relatively high number of new inclusions: we relooked at all the literature again and we selected articles that discussed breast milk and SARS-CoV-2, but also articles that reported on formula use, feeding difficulties in newborns, and/or that discussed infant feeding recommendations in the context of COVID-19.</i></p>							
Maternal health, maternity care, Europe	15-Aug-20	<a href="#">The impact of the coronavirus (COVID-19) pandemic on maternity care in Europe</a>	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	<a href="#">Clarifying the Sweeping Consequences of COVID-19 in Pregnant Women, Newborns, and Children With Existing Cohorts</a>	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 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.	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. doi:10.1001/jamapediatrics.2020.2395
Neonate, breastfeeding, childbirth, maternal health, USA	10-Aug-20	<a href="#">Newborns of COVID-19 mothers: short-term outcomes of colocating and breastfeeding from the pandemic’s epicenter</a>	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-	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					term adverse neonatal outcomes with skin-to-skin care, rooming-in, or breastfeeding in newborns of SARS-CoV-2 positive mothers.	SARS-CoV-2 to their newborn.	
Pregnancy, neonate, management, Brazil	10-Aug-20	<a href="#">Care recommendation s for parturient and postpartum women and newborns during the COVID-19 pandemic: a scoping review</a>	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	<a href="#">Effect of the COVID-19 pandemic response on intrapartum care, stillbirth, and neonatal mortality outcomes in Nepal: a prospective observational study</a>	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 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.	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. doi:10.1016/S2214-109X(20)30345-4
Pregnancy, maternal health, Nepal	10-Aug-20	<a href="#">Providing maternal health services during the COVID-19 pandemic in Nepal</a>	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,	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					and be prepared to modify restrictions to enable women to again access timely and quality maternal health services.		
Neonate, NICU, clinical characteristics, vertical transmission, Turkey	10-Aug-20	<a href="#">A multicenter study on epidemiological and clinical characteristics of 125 newborns born to women infected with COVID-19 by Turkish Neonatal Society</a>	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, Akin 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]. <i>Eur J Pediatr.</i> 2020;1-10. doi:10.1007/s00431-020-03767-5
Pregnancy, mother-infant separation, breastfeeding, New York City, USA	10-Aug-20	<a href="#">Impact of Maternal SARS-CoV-2 Detection on Breastfeeding Due to Infant Separation at Birth</a>	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 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.	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]. <i>J Pediatr.</i> 2020;S0022-3476(20)30986-0. doi:10.1016/j.jpeds.2020.08.004
postpartum; obstetric; newborn; skin-to-skin; breastfeeding	9-Aug-20	<a href="#">Skin-to-Skin Contact at Birth in the COVID-19 Era: In Need of Help!</a>	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]. <i>Am J Perinatol.</i> 2020;10.1055/s-0040-1714255. doi:10.1055/s-0040-1714255

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Breast milk, breastfeeding, case series, donor breast milk, infant formula, Spain	8-Aug-20	<a href="#">Breastfeeding mothers with COVID-19 infection: a case series</a>	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, infant, mother-infant transmission, China	6-Aug-20	<a href="#">Breastfed 13 month-old infant of a mother with COVID-19 pneumonia: a case report</a>	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	<a href="#">Implications of the COVID-19 Pandemic Response for Breastfeeding, Maternal Caregiving Capacity and Infant Mental Health</a>  [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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Breastfeeding, human milk, postpartum, neonate outcomes	5-Aug-20	<a href="#">The COVID-19 liquid gold rush: Critical perspectives of human milk and SARS-CoV-2 infection</a>	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	<a href="#">Vertical Transmission of SARS-CoV-2 (COVID-19): Are Hypotheses More than Evidences?</a>	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, Tziella C, et al. Vertical Transmission of SARS-CoV-2 (COVID-19): Are Hypotheses More than Evidences? [published online 2020 Aug 05]. Am J Perinatol. doi: 10.1055/s-0040-1714346.
Pregnancy, corticosteroids, oxygen support, ARDS, fetal lung maturity	4-Aug-20	<a href="#">Corticosteroids in the Management of Pregnant Patients With Coronavirus Disease (COVID-19)</a>	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	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	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.000000000004103.

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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).	documented efficacy in cases of acute lung injury.	doi:10.1097/AOG.0000000000004103
Children, adolescents, fatality rate, Italy	3-Aug-20	<a href="#">After the First Wave of COVID-19: Reflections From Italy</a>	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
Neonatal, international collaboration, registry	3-Aug-20	<a href="#">Neonates in the COVID-19 pandemic</a>	Pediatrics Research	Commentary	While the COVID-19 pandemic has predominantly affected adults sparing infants and neonates from severe infection, the long-term effects and sequelae 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 already includes over 90 countries, to further addresses neonatal disaster preparedness.	The authors provide commentary about the impact of the COVID-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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Breastfeeding, LMICs, morbidity, newborns	3-Aug-20	<a href="#">Impact of COVID-19 on maternal and child health</a>	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. <i>The Lancet</i> . 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	<a href="#">PrEP retention and prescriptions for pregnant women during COVID-19 lockdown in South Africa</a>	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]. <i>The Lancet</i> . doi:https://doi.org/10.1016/S2352-3018(20)30226-5
COVID-19; preterm neonate; pneumonia; vertical transmission; length of stay	3-Aug-20	<a href="#">Neonatal COVID-19 Pneumonia: Report of the First Case in a Preterm Neonate in Mayotte, an Overseas Department of France</a>	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. <i>Children (Basel)</i> . 2020;7(8):E87. Published 2020 Aug 3. doi:10.3390/children7080087

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, neonate, vertical transmission, India	2-Aug-20	<a href="#">Early-onset symptomatic neonatal COVID-19 infection with high probability of vertical transmission</a>	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
Breastfeeding, skin-to-skin contact, neonatal care, neonates, childbirth, patient education,	1-Aug-20	<a href="#">Skin-to-Skin Care and COVID-19</a>	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 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.	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
Pregnancy, neonates, C-section, breastfeeding, Latin America	31-Jul-20	<a href="#">Perinatal COVID-19 in Latin America</a>  [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



Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, mother-infant separation, breastfeeding	27-Jul-20	<a href="#">Review of guidelines and recommendations from 17 countries highlights the challenges that clinicians face caring for neonates born to mothers with COVID-19</a> [Free Access to Abstract Only]	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 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.	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-19 [published online 2020 Jul 27]. Acta Paediatr. 2020. doi:10.1111/apa.15495
Breastfeeding, transmission, breast milk, infant health, policy	25-Jul-20	<a href="#">Mistakes from the HIV pandemic should inform the COVID-19 response for maternal and newborn care</a>	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). <a href="https://doi.org/10.1186/s13006-020-00306-8">https://doi.org/10.1186/s13006-020-00306-8</a>
Neonatal, vertical transmission, pregnancy, USA	23-Jul-20	<a href="#">Neonatal management and outcomes during the COVID-19 pandemic: an observation cohort study</a>	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	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 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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	life. None of the neonates had symptoms of COVID-19 as of 1 month of age.	
Pregnancy, delivery, childbirth, neonate, USA	23-Jul-20	<a href="#">Management of mother-newborn dyads in the COVID-19 era</a>	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	<a href="#">COVID-19 in Different Age Groups of Children: Initial Impression from Integrated Disease Surveillance Programme (IDSP) under National Centre for Disease Control (NCDC)</a>	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 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.	The commentary briefly analyzed the data from national COVID-19 surveillance data in India and stated a need for further studies, especially studies on the pediatric age group.	Kulkarni SV, Chauhan H. COVID-19 in Different Age Groups of Children: Initial Impression from 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	<a href="#">COVID-19 in a Complex Obstetric Patient with Cystic Fibrosis</a>	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	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	consideration of parental wishes with regards to delivery and care of the neonate following birth.	
Pregnancy, transmission, perinatal management, breastfeeding, Portugal, Spain	23-Jul-20	<a href="#">Perinatal management of SARS-CoV-2 infection in a level III University Hospital</a> [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
Breastfeeding, mother-infant separation, mother-infant transmission, California, USA	21-Jul-20	<a href="#">Protecting Breastfeeding during the COVID-19 Pandemic</a>	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
Pregnancy, vertical transmission, placenta, neonate, breast milk	21-Jul-20	<a href="#">Vertical transmission of SARS CoV-2: a systematic review</a> [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	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	fetal and maternal outcomes associated with SARS-CoV-2 due to its effects on the placenta.	
Breastfeeding, access to care, maternal concerns, Australia	20-Jul-20	<a href="#">Providing breastfeeding support during the COVID-19 pandemic: Concerns of mothers who contacted the Australian Breastfeeding Association</a>	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] medRxiv. doi: 10.1101/2020.07.18.20152256
Low- and middle- income countries, children, malnutrition, Pakistan	19-Jul-20	<a href="#">Foreseeing a worsening of pediatric malnutrition following SARS-CoV-2 in low and middle-income countries such as Pakistan</a>	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;50882-5963(20)30499-1. doi:10.1016/j.pedn.2020.06.016
Guideline, neonatal ICU, newborn, Turkey	19-Jul-20	<a href="#">The Turkish Neonatal Society proposal for the management of COVID-19 in the neonatal intensive care unit</a>	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/TurkPediatriA rs.2020.43788

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, neonate, breastfeeding, clinical characteristics, management, pharmacological treatment	18-Jul-20	<a href="#">Maternal and perinatal outcomes and pharmacological management of Covid-19 infection in pregnancy: a systematic review protocol</a>	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 pharmacological therapies for COVID-19 during the antenatal, perinatal, and postnatal periods and during breastfeeding.	The authors outline their protocol for a systematic review that will be the first to address therapeutic management and safety of medicines to treat COVID-19 during pregnancy and breastfeeding.	Thomas B, Pallivalapila A, El Kassem W, et al. Maternal and perinatal outcomes 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 href="#">A pandemic center's experience of managing pregnant women with COVID-19 infection in Turkey: A prospective cohort study</a> [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	<a href="#">What are considerations for neonates at risk for COVID-19?</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, transmission, isolation, testing, South Korea	13-Jul-20	<a href="#">Management of the first newborn delivered by a mother with COVID-19 in South Korea</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, 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.	This case describes the management of the delivery of a newborn to a mother with COVID-19 in South Korea, in which there was no evidence of intra-uterine transmission.	Lee, E.K., Kim, W.D., Lee, D.W. and Lee, S.A., Management of the first newborn delivered by a mother with COVID-19 in South Korea. Clinical and experimental pediatrics. 2020.
Breastfeeding, food, hygiene, supplementation	12-Jul-20	<a href="#">Dietary Recommendations During the COVID-19 Pandemic</a>	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
Vertical transmission, viral detection, immune response, milk, Italy	10-Jul-20	<a href="#">In-Utero Mother-To-Child SARS-CoV-2 Transmission: viral detection and fetal immune response</a>	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 placenta, 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	This authors first reported that SARS-CoV-2 is found in the vagina mucosa of a pregnant woman, at-term placenta, the umbilical cord blood, and in one milk specimen. They also described the	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	inflammatory response triggered by SARS-CoV-2 infection in pregnant women at both systemic and placental levels.	
Pregnancy, obstetric violence, human rights, mother-infant separation, breastfeeding, visitor restrictions	10-Jul-20	<a href="#">COVID-19 as a risk factor for obstetric violence</a>	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	<a href="#">Multi-center Spanish Study Found No Incidences of Viral Transmission in Infants Born to Mothers With COVID-19</a>	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 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.	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. doi:10.1111/apa.15474
Breast milk, pasteurization, viral load, viral inactivation	10-Jul-20	<a href="#">The Impact of Thermal Pasteurization on Viral Load and Detectable Live Viruses in Human Milk and Other Matrices: A Rapid Review</a>	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 56°C-60°C 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 ≥56°C. 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	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,	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					protocols and should test inactivation in HM. In all matrices, including HM, pasteurization at 62.5°C 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 62.5°C for 30 min), the standard pasteurization procedure conducted at milk banks, should be sufficient to inactivate non-heat resistant viruses, including coronaviruses, if present.	including coronaviruses, whether present via vertical transmission or as a contaminant.	Metab. 2020. doi:10.1139/apnm-2020-0388
Breastfeeding, colostrum, hand expression	9-Jul-20	<a href="https://www.liebertpub.com/doi/abs/10.1089/bfm.2020.0183">Negative Transmission of SARS-CoV-2 to Hand-Expressed Colostrum From SARS-CoV-2-Positive Mothers</a> [Free Access to Abstract only] <a href="https://www.liebertpub.com/doi/abs/10.1089/bfm.2020.0183">https://www.liebertpub.com/doi/abs/10.1089/bfm.2020.0183</a>	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	<a href="#">Holder Pasteurization of Donated Human Milk Is Effective in Inactivating SARS-CoV-2</a>	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 $1 \times 10^7$ 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
Vertical transmission, pregnancy, Lausanne, Switzerland	8-Jul-20	<a href="#">Vertical Transmission and Materno-Fetal Outcomes in 13 Patients With COVID-19</a>	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	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



Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					discharge (3 days) and the rate of hospitalization (15%) indicate excellent neonatal outcomes.		
Breast feeding, guidelines, neonate, vertical transmission	7-Jul-20	<a href="#">Breast Feeding in Suspected or Confirmed Cases of COVID 19-a New Perspective</a>	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 separation, shared decision making	6-Jul-20	<a href="#">Setting Realistic Goals for Feeding Infants When Their Mothers Have Suspected or Confirmed COVID-19</a>	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 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.	The authors argue that a shared decision-making approach for breastfeeding should be used 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.	Mosalli R, Paes B. Setting realistic goals for feeding infants 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	<a href="#">Mental Health Status of Pregnant and Breastfeeding Women During the COVID-19 Pandemic: A Call for Action</a>	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	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					anxiety screening should be considered in obstetrical settings during the COVID-19 pandemic.	measures may place an additional burden on the emotional wellbeing of their patients.	
Breast feeding, perinatal care, childbirth	1-Jul-20	<a href="#">The COVID-19 Pandemic: The Role of Childbirth Educators in Promoting and Protecting Breastfeeding</a>  [Free Access to Abstract only]	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-19 pandemic, breastfeeding and the provision of human milk remains recommended by national and international organizations.	The authors emphasize the importance of childbirth educators in recommending breastfeeding during the COVID-19 pandemic.	Spatz DL. The COVID-19 Pandemic: The Role of Childbirth Educators 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	<a href="#">Clinical outcomes of 201 neonates born to mothers with COVID-19: a systematic review</a>	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	<a href="#">Coronavirus Disease 2019 in Pregnant Women: A Report Based on 116 Cases</a>	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					evidence of vertical transmission of SARS-CoV-2 when the infection occurs during the third trimester of pregnancy.		
Breastfeeding, breast milk, transmission, neonatal infection, Turkey	1-Jul-20	<a href="#">Virolactia in an Asymptomatic Mother With COVID-19</a>	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 SARS-CoV-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 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.	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 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.	Bastug A, Hanifehnezhad A, Tayman C, et al. Virolactia in an Asymptomatic Mother with COVID-19 [published 2020 Jul 1]. Breastfeed Med. doi:10.1089/bfm.2020.0161
Breastfeeding, human milk, breast milk, newborn, swab test	30-Jun-20	<a href="#">SARS-CoV-2 in Human Breast Milk and Neonatal Outcome: A Collaborative Study</a>	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 strict hygiene protocols to minimize infants' risk of infection via other modes of transmission.	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
Childbirth, pregnancy, postpartum, abortion care, Brazil	30-Jun-20	<a href="#">Childbirth, Puerperium and Abortion Care Protocol During the COVID-19 Pandemic</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Bonding, guidelines, separation, neonates	26-Jun-20	<a href="#">Promoting Attachment Between Parents and Neonates Despite the COVID-19 Pandemic</a>	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, Sizon 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
Pregnancy, obstetric interventions, evidence-based medicine	25-Jun-20	<a href="#">Are Covid-19-positive Mothers Dangerous for Their Term and Well Newborn Babies? Is There an Answer?</a>	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. 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.	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, presence of companion during birth and labor, cord clamping, skin-to-skin contact, and breastfeeding for pregnant women with COVID-19.	Stanojević M. Are Covid-19-positive mothers dangerous for their term and well newborn babies? Is there an answer?. J Perinat Med. 2020;48(5):441-445. doi:10.1515/jpm-2020-0186
Neonate, mother-newborn separation	23-Jun-20	<a href="#">Care of Newborns Born to Mothers With COVID-19 Infection; A Review of Existing Evidence</a>	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 Sighaldehy 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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Breastfeeding, neonatal infection, mother-newborn separation	21-Jun-20	<a href="#">Breastmilk and COVID-19: What Do We Know?</a>	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	<a href="#">SARS-CoV-2 in human milk is inactivated by Holder pasteurization but not cold storage</a>	medRxiv	Preprint ( <u>not peer reviewed</u> )	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, ACE2, female reproductive organs, cathepsins	20-Jun-20	<a href="#">Female Reproductive Tract Has Low Concentration of SARS-CoV2 Receptors</a> [upload from link might take a long time (on 3 July 2020)]	bioRxiv	Pre-print ( <u>not peer-reviewed</u> )	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 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.	The epithelia of female reproductive organs (uterus, myometrium, ovary, fallopian tube, breast) lack the co-location 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.	Goad J, Rudolph J, Rajkovic A. Female reproductive tract has low concentration of SARS-CoV2 receptors. Preprint. bioRxiv. 2020;2020.06.20.163097. Published 2020 Jun 22. doi:10.1101/2020.06.20.163097

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Obstetric violence, delivery method, mother-newborn separation, breastfeeding	19-Jun-20	<a href="#">COVID-19 as a Risk Factor for Obstetric Violence</a>	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	<a href="#">The impact of the Covid-19 lockdown on the experiences and feeding practices of new mothers in the UK: Preliminary data from the COVID-19 New Mum Study</a>	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 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.	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; notably, groups at greater risk are under-represented.	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 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	<a href="#">COVID-19 in Pregnant Women and Neonates: A Systematic Review of the Literature With Quality Assessment of the Studies</a>	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	<a href="#">Antibodies in the Breast Milk of a Maternal Woman With COVID-19</a>	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	Breastmilk was found negative for SARS-CoV-2. The IgG and IgA antibodies were detected in breast milk, indicating that breastfeeding might	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	have the potential benefit to the neonates.	18]. doi: 10.1080/22221751.2020.1780952
Infant, cardiac involvement, myocardial enzymes, inflammation, Italy	18-Jun-20	<a href="#">COVID-19 Cardiac Involvement in a 38-day Old Infant</a>	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]. <i>Pediatr Pulmonol</i> . doi:10.1002/ppul.24895
Breastmilk, neonatal care, neonates, donor breastmilk, Paris, France,	17-Jun-20	<a href="#">A Call to Ensure Access to Human Milk for Vulnerable Infants During the COVID-19 Epidemic</a>	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]. <i>J Hum Lact</i> . 2020; 0890334420938036. doi:10.1177/0890334420938036
Breastmilk, breast feeding, lactoferrin, infant, neonate, viral entry, immunomodulatory effects	17-Jun-20	<a href="#">Lactoferrin Is an Important Factor When Breastfeeding and COVID-19 Are Considered</a>	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. <i>Acta Paediatr</i> . doi:10.1111/apa.15417
Breast milk, breastfeeding, validated assay, culture, viral RNA vs. replication-	16-Jun-20	<a href="#">Evaluation of SARS-CoV-2 in Breastmilk from 18 Infected Women</a>	medRxiv	Preprint ( <u>not peer reviewed</u> )	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	Findings from this analysis of breast milk samples using validated assays suggest that SARS-CoV-2 RNA does not represent replication-	Chambers CD, Krogstad P, Bertrand K, et al. Evaluation of SARS-CoV-2 in Breastmilk from 18 Infected Women [published online 2020 Jun 16]. <i>medRxiv</i> .

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
competent virus					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 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.	competent virus, and breast milk is an unlikely source of infection.	doi:10.1101/2020.06.12.20127944
Neonates, vertical transmission, breastfeeding, skin-to-skin contact	16-Jun-20	<a href="#">Appropriate Care for Neonates Born to Mothers With COVID-19 Disease</a>	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	<a href="#">Guidance on Breastfeeding During the Covid-19 Pandemic</a>	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 their families must be very well informed to make a conscious choice based on the information available in the literature so far.	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 families to make an informed decision.	Calil VMLT, Krebs VLI, Carvalho WB. Guidance on breastfeeding during the Covid-19 pandemic. Rev Assoc Med Bras (1992). 2020;66(4):541-546. doi:10.1590/1806-9282.66.4.541
Neonates, NICU, management protocol, international guidelines	15-Jun-20	<a href="#">International Comparison of Guidelines for Managing Neonates at the Early Phase of the SARS-CoV-2 Pandemic</a>	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,	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	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



Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					but future guidance should be built on high-level evidence, rather than expert consensus.	differences are highlighted.	
Vertical transmission, breastfeeding, viral carriage, pregnancy, neonates	13-Jun-20	<a href="#">Covid-19 in pregnant women and babies: What pediatricians need to know</a>	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	<a href="#">Challenges in Neonatal COVID-19 Infection</a>	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 href="#">A 6 Months Old Infant With Fever, Dyspnea and Poor Feeding, Diagnosed With COVID-19</a>	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 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.	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. doi:10.1016/j.tmaid.2020.101789
Pregnancy, clinical protocol, maternal-fetal management, childbirth	12-Jun-20	<a href="#">Coronavirus Disease 2019 in Pregnancy: A Clinical Management Protocol and Considerations for Practice</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
							Diagn Ther. doi:10.1159/000508487
Neonatal infection, breastfeeding, mother-newborn separation, vertical transmission, systematic review	12-Jun-20	<a href="#">Maternal Transmission of SARS-CoV-2 to the Neonate, and Possible Routes for Such Transmission: A Systematic Review and Critical Analysis</a>	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	<a href="#">Mechanisms and Evidence of Vertical Transmission of Infections in Pregnancy Including SARS-CoV-2</a>	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
Neonates, vertical transmission, clinical management, breastfeeding, China	10-Jun-20	<a href="#">What Can We Learn From Neonates With COVID-19?</a>	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	<a href="#">Protect Pregnant and Lactating Women With COVID-19 Through Research, Not From Research</a>	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	Due to exclusion of breastfeeding individuals in remdesivir's clinical trials, the drug's presence in breastmilk is unknown. This presents ethical dilemma for both	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.2020.2915.5.ams

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	pregnant women with COVID-19 and clinicians when considering breastfeeding and treatment.	
Infants, breastfeeding, milk banks, lactation management center, India	9-Jun-20	<a href="#">Ensuring Exclusive Human Milk Diet for All Babies in COVID-19 Times</a>	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 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.	This article discusses challenges in ensuring an exclusive human milk diet for infants during the COVID-19 pandemic in India, as well as solutions developed by lactation management centers to meet this challenges.	Sachdeva RC, Jain S, Mukherjee S, Singh J. Ensuring Exclusive Human Milk Diet for All Babies in COVID-19 Times [published online 2020 Jun 9]. Indian Pediatr. 2020;S097475591600191.
Postnatal infection, neonates, humoral immunity, maternity hospital outbreak, horizontal transmission, Germany	9-Jun-20	<a href="#">Postnatal SARS-CoV-2 Infection and Immunological Reaction: A Prospective Family Cohort Study</a>	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, PIMSTS, Netherlands	9-Jun-20	<a href="#">SARS-CoV-2 placental infection and inflammation leading to fetal distress and neonatal multi-organ failure in an asymptomatic woman</a>	medRxiv	Preprint ( <u>not peer reviewed</u> )	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					histiocytic intervillitis 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.		
Breastfeeding, human milk expression, breast pump, milk banking	8-Jun-20	<a href="#">Breastfeeding, Human Milk Collection and Containers, and Human Milk Banking: Hot Topics During the COVID-19 Pandemic</a>	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 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.	An overview of different strategies, with their practical implications, to address issues related to breastfeeding and COVID-19 is presented in this report.	Moro GE, Bertino E. Breastfeeding, Human Milk Collection 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	<a href="#">Perceptions of Obstetricians and Pediatricians About the Risk of COVID-19 for Pregnant Women and Newborns</a>	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	<a href="#">Caring for Women Who Are Planning a Pregnancy, Pregnant, or Postpartum During the COVID-19 Pandemic</a>	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					with her newborn should use a face mask and careful hand and breast hygiene before breastfeeding.		
Nutritional status, women, children, Nepal	5-Jun-20	<a href="#">An urgent call to address the nutritional status of women and children in Nepal during COVID-19 crises</a>	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, 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.	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 Health. 2020;19(1):87. Published 2020 Jun 5. doi:10.1186/s12939-020-01210-7
Neonates, vertical transmission, fetal distress, hypoxic-ischemic encephalopathy, India	5-Jun-20	<a href="#">Manifestations in Neonates Born to COVID-19 Positive Mothers</a>	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	<a href="#">Management of Care for Neonates Born to SARS-CoV-2 Positive Women With or Without Clinical Symptoms (COVID-19)</a>	Klinische Pädiatrie	Diagnostic and Treatment Recommendation	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, breast milk sample, breastfeeding, China	4-Jun-20	<a href="#">Breastfeeding Risk From Detectable Severe Acute Respiratory Syndrome Coronavirus 2 in Breastmilk</a>	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
Pregnancy, neonates, vertical transmission, breastfeeding, coronaviruses, SARS, MERS	4-Jun-20	<a href="#">Relationship Between Pregnancy and Coronavirus: What We Know</a>	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	<a href="#">Neonatal SARS-CoV-2 Infection</a>	Clinics (Sao Paulo)	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	<a href="#">Excretion of Sars-Cov-2 in Human Breastmilk Samples</a>	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					breastfeeding until the mother has achieved viral clearance. Assessment for live virus isolation was not performed in clinical samples in this study.		
Pregnancy, neonates, breastfeeding, breast milk samples, IgM and IgG antibodies, China	1-Jun-20	<a href="#">Safety of Breastfeeding in Mothers with SARS-CoV-2 Infection</a>	medRxiv	Preprint ( <u>not peer reviewed</u> )	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	<a href="#">Wet Nurses to Donor Milk Banks and Back Again: The Continuum of Sharing Our Milk to Save Lives</a>	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	<a href="#">Detectable Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in Human Breast Milk of a Mildly Symptomatic Patient With Coronavirus Disease 2019 (COVID-19)</a>	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 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	This case report describes an actively breastfeeding patient with SARS-CoV-2 infection with detectable viral RNA in human milk; the patient's infant also tested positive for SARS-CoV-2, but no adverse effects from breastfeeding were noted and viral transmission via human milk is	Tam PCK, Ly KM, Kernich ML, et al. Detectable severe acute respiratory syndrome coronavirus 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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	concluded unlikely by the authors.	
Human milk, breastfeeding, human coronaviruses, assay validation	30-May-20	<a href="#">SARS-CoV-2 and Human Milk: What Is the Evidence?</a>	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]. <i>Matern Child Nutr</i> . doi:10.1111/mcn.13032
Pregnancy, risk perceptions, knowledge, breastfeeding, China	29-May-20	<a href="#">The outbreak of coronavirus disease in China: Risk perceptions, knowledge, and information sources among prenatal and postnatal women</a>	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]. <i>Women Birth</i> . doi:10.1016/j.wombi.2020.05.010
Pregnancy, breastfeeding, diabetes, recommendations, Italy	29-May-20	<a href="#">Breastfeeding During the COVID-19 Pandemic: Suggestions on Behalf of Woman Study Group of AMD</a>	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]. <i>Diabetes Res Clin Pract</i> . doi:10.1016/j.diabres.2020.108239



Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Neonates, cord clamping, breastfeeding, isolation, skin-to-skin contact	28-May-20	<a href="#">Delayed Umbilical Cord Clamping and Breastfeeding After Childbirth in Mothers Affected by COVID 19: Recommended or Not?</a>	European Journal of Obstetrics & Gynecology and Reproductive Biology	Correspondence	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, Rahnamaei 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	<a href="#">Coronavirus Covid-19 Infection and breastfeeding: an exploratory review</a> [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.
Human milk, viral load, thermal pasteurization, coronaviruses	27-May-20	<a href="#">The impact of thermal pasteurization on viral load in human milk and other matrices: A rapid review</a>	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	<a href="#">Covid-19 and the Need for Perinatal Mental Health Professionals: Now More Than Ever Before</a>	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	This article discusses the need to incorporate more perinatal mental health staff into NICUs, to support parents, newborns, and staff experiencing added	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	stress during this pandemic.	
Pregnancy, neonates, separation policies, breastfeeding, WHO	26-May-20	<a href="#">When Separation Is Not the Answer: Breastfeeding Mothers and Infants Affected by COVID-19</a>	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, 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.	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]. <i>Matern Child Nutr</i> . doi:10.1111/mcn.13033
Children, viral pneumonia, risk factors, LMICs	26-May-20	<a href="#">Protecting Children in Low-Income and Middle-Income Countries From COVID-19</a>	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. <i>BMJ Glob Health</i> . 2020;5(5):e002844. doi:10.1136/bmjgh-2020-002844

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, neonates, maternal outcomes, cesarean delivery, breast milk, systematic review	26-May-20	<a href="#">Complications and Outcomes of SARS-CoV-2 in Pregnancy: Where and What Is the Evidence?</a>	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	<a href="#">Sars-CoV-2 in the Context of Past Coronaviruses Epidemics: Consideration for Prenatal Care</a>	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 coronaviruses 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	<a href="#">Labor and Delivery Visitor Policies During the COVID-19 Pandemic: Balancing Risks and Benefits</a>	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 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.	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 Benefits [published online 2020 May 22]. JAMA. doi:10.1001/jama.2020.7563
Breast milk, newborn, pregnancy	22-May-20	<a href="#">SARS-CoV-2 Infection and the Newborn</a>	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	Infant treatment for COVID-19 is mainly symptomatic, and anti-viral treatment is not generally needed in newborns. There are no	Ovali F. SARS-CoV-2 Infection and the Newborn. Front Pediatr. 2020;8:294. doi:10.3389/fped.2020.00294

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	data on the efficacy of anti-viral drugs in the newborn population. This paper also discusses findings related to breastmilk and SARS-CoV-2.	
Neonatal infection, acute respiratory failure, USA	22-May-20	<a href="#">A Case Report of Neonatal Acute Respiratory Failure Due to SARS-CoV-2</a>	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 ratio, breastfeeding, Spain	22-May-20	<a href="#">Clinical Course of Coronavirus Disease-2019 (COVID-19) in Pregnancy</a>	Acta Obstetrica 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%), 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.	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 were diagnosed in neonates, breastfed or not.	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 online 2020 May 22]. Acta Obstet Gynecol Scand. doi:10.1111/aogs.13921
Neonates, care practices, mother-newborn separation,	21-May-20	<a href="#">Management of Newborns Exposed to Mothers With Confirmed or</a>	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	This paper provides guidance for management of newborns exposed to mothers with confirmed	Amatya S, Corr TE, Gandhi CK, et al. Management of newborns exposed to mothers with confirmed or suspected COVID-19

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
breastfeeding, discharge, Penn State, USA		<a href="#">Suspected COVID-19</a>			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.	or suspected COVID-19, in the perinatal period.	[published online 2020 May 21]. J Perinatol. doi:10.1038/s41372-020-0695-0
Pregnancy, breastfeeding, breast milk samples, Germany	21-May-20	<a href="#">Detection of SARS-CoV-2 in human breastmilk</a>	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 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.	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 detected in one mother's consecutive breast milk samples.	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
Preterm newborn, breastfeeding, breast milk sample, expressed maternal milk, Italy	21-May-20	<a href="#">Lack of Viral Transmission to Preterm Newborn From a COVID-19 Positive Breastfeeding Mother at 11 Days Postpartum</a>	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	<a href="#">Management of the Mother-Infant Dyad With Suspected or Confirmed SARS-CoV-2 Infection in a Highly Epidemic Context</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, neonates, skin-to-skin contact, breastfeeding, perinatal outcomes	19-May-20	<a href="#">Skin-to-Skin Care and COVID-19</a>	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 premature birth, could be mitigated through greater prenatal support for pregnant women through social services.	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
Pregnancy, clinical characteristics, urgent delivery, preterm delivery, neonatal infection, pregestational BMII, Italy	19-May-20	<a href="#">Clinical Findings and Disease Severity in Hospitalized Pregnant Women With Coronavirus Disease 2019 (COVID-19)</a>	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	<a href="#">Near-term Pregnant Women's Attitude Toward, Concern About and Knowledge of the COVID-19 Pandemic</a>	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.		
Pregnancy, neonates, perinatal outcomes, vertical transmission, breast milk samples, systematic review	19-May-20	<a href="#">Effects of Coronavirus Disease 2019 (COVID-19) on Maternal, Perinatal and Neonatal Outcomes: A Systematic Review</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 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.	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 vertical transmission, perinatal and neonatal complications.	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 [published online 2020 May 19]. <i>Ultrasound Obstet Gynecol</i> . doi:10.1002/uog.22088
Preterm infant, ARDS, host inflammatory response, remdesivir, horizontal transmission, UK	19-May-20	<a href="#">Horizontal transmission of severe acute respiratory syndrome coronavirus 2 to a premature infant: multiple organ injury and association with markers of inflammation</a>	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 <i>Staphylococcus epidermidis</i> , 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	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]. <i>Lancet Child &amp; Adol Health</i> . doi:10.1016/S2352-4642(20)30166-8

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.		
Pregnancy, neonates, labor, obstetric management, breastfeeding, Nigeria, sub-Saharan Africa	18-May-20	<a href="#">Management of covid-19: A Practical Guideline for Maternal and Newborn Health Care Providers in Sub-Saharan Africa</a>	Journal of Maternal Fetal and Neonatal Medicine	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 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.	These guidelines on obstetric and newborn management during the COVID-19 pandemic are intended for use by maternal and newborn care providers in sub-Saharan Africa.	Ezenwa BN, Fajolu IB, Akinajo OR, et al. Management of covid-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
Pregnancy, neonates, perinatal society, breastfeeding, guidelines	18-May-20	<a href="#">SARS-CoV-2 in Pregnancy: A Comprehensive Summary of Current Guidelines</a>	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, Ibirogbia 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, breastfeeding, isolation	18-May-20	<a href="#">COVID 19 in Neonates</a>	Journal of Maternal Fetal and Neonatal Medicine	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 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	This article summarizes current evidence on clinical presentation of COVID-19 in neonates, as well as recommendations for delivery room and postnatal management of neonates born to suspected or confirmed	Kallem VR, Sharma D. COVID 19 in neonates [published online 2020 May 18]. J Matern Fetal Neonatal Med. doi:10.1080/14767058.2020.1759542



Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	COVID-19 positive mothers.	
Neonates, pregnancy, clinical characteristics, mild infection, USA	17-May-20	<a href="#">Neonatal Coronavirus 2019 (COVID-19) Infection: A Case Report and Review of Literature</a>	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	<a href="#">Novel coronavirus-related acute respiratory distress syndrome in a patient with twin pregnancy: A case report</a>	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	<a href="#">Coronavirus Disease 2019 (COVID-19) in Neonates and Children From China: A Review</a>	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 recommend avoiding breastfeeding if a pregnant woman or newborn is diagnosed or suspected to have SARS-CoV-2 infection.	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. doi:10.3389/fped.2020.00287
Pregnancy, neonatal infection, vertical transmission	15-May-20	<a href="#">Is SARS-CoV-2 Vertically Transmitted?</a>	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	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.

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.		doi:10.3389/fped.2020.00276
Breastfeeding, WHO guidelines, human milk bank, milk donors, infection control, Brazil	15-May-20	<a href="#">Speech Therapy, Breastfeeding and COVID-19: Information to Speech Therapist</a>	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	<a href="#">Expert Recommendations for the Care of Newborns of Mothers With COVID-19</a>	Clinics (Sao Paulo)	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
Pregnancy, maternal and neonatal outcomes, cesarean section, vertical transmission, breastfeeding	15-May-20	<a href="#">Impact of COVID-19 infection on maternal and neonatal outcomes: a review of 287 pregnancies</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, newborn triage, preterm birth, delivery room preparedness, New York, USA	14-May-20	<a href="#">Delivery Room Preparedness and Early Neonatal Outcomes During COVID19 Pandemic in New York City</a>	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	<a href="#">Caring for Newborns Born to Mothers With COVID-19: More Questions Than Answers</a>	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	<a href="#">Neonatal Intensive Care Unit Preparedness for the Novel Coronavirus Disease-2019 Pandemic: A New York City Hospital Perspective</a>	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, newborn transport, mother and newborn contact, NICU care, horizontal transmission to newborns, breastfeeding, communication with caregivers, and hospital discharge.	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 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	<a href="#">Improving the Quality of Care in Pregnancy and Childbirth With Coronavirus (COVID-19): A Systematic Review</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, neonatal infection, vertical transmission, placental pathology, Canada	14-May-20	<a href="#">Probable Congenital SARS-CoV-2 Infection in a Neonate Born to a Woman With Active SARS-CoV-2 Infection</a>	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 intervillitis, 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 href="#">A Case Series of the 2019 Novel Coronavirus (SARS-CoV-2) in Three Febrile Infants in New York</a>	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 unremarkable hospital courses; two required intravenous fluid support due to poor feeding. All were discharged without complications.	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, 2020 May 13]. Pediatrics. doi:10.1542/peds.2020-1056
Breastfeeding, transmission risk, WHO, maternal counselling	12-May-20	<a href="#">WHO Frequently Asked Questions: Breastfeeding and COVID-19 For health care workers</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, neonate, vaginal delivery, fetal monitoring, mechanical breast stimulation, Portugal	11-May-20	<a href="#">Vaginal Delivery in a Woman Infected With SARS-CoV-2 - The First Case Reported in Portugal</a>	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 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.	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 [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	<a href="#">Report of a Series of Healthy Term Newborns From Convalescent Mothers With COVID-19</a> (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	<a href="#">Post-natal Follow-Up for Women and Neonates During the COVID-19 Pandemic: French National Authority for Health Recommendations</a>	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.2020.10.1805
Pregnancy, neonates, maternal outcomes, delivery, vertical transmission, breastfeeding	10-May-20	<a href="#">COVID-19 and Pregnancy - Where Are We Now? A Review</a>	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, Sokółowska 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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Infant, Kawasaki Disease, CRP, IVIG, India	10-May-20	<a href="#">Novel Coronavirus Mimicking Kawasaki Disease in an Infant</a>	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	<a href="#">The Importance of Continuing Breastfeeding During COVID-19: In Support to the WHO Statement on Breastfeeding During the Pandemic</a>	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 supplementation, vulnerable populations	10-May-20	<a href="#">COVID-19 Pandemic - Are We Heading From Health Crisis Towards An Unprecedented Nutrition Crisis?</a>	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 samples, viral clearance, China	8-May-20	<a href="#">Can SARS-CoV-2-infected women breastfeed after viral clearance?</a>	Journal of Zhejiang University-SCIENCE B	Correspondence	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, stool, and urine remained negative. Beginning on day 4 of hospitalization, repeated RT-PCR analyses of the mother's sputum and breastmilk were	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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	<a href="#">Characterisation of COVID-19 Pandemic in Paediatric Age Group: A Systematic Review and Meta-Analysis</a>	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	<a href="#">Should Infants Be Separated from Mothers with COVID-19? First, Do No Harm</a>	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	<a href="#">Evidence of a significant secretory-IgA-dominant SARS-CoV-2 immune response in human milk following recovery from COVID-19</a>	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 group mean optical density (OD) values of undiluted milk were significantly	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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	<a href="#">COVID-19 in a 26-week preterm neonate</a>	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	<a href="#">Maintaining safety and service provision in human milk banking: a call to action in response to the COVID-19 pandemic</a>	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	<a href="#">COVID-19 in Neonates and Infants: Progression and Recovery</a>	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
Newborn, neonate, postnatal transmission, breastfeeding	6-May-20	<a href="#">Newborns at Risk of COVID-19</a>	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	Post-natal transmission of SARS-CoV-2 can lead to neonatal infections of COVID-19. Different guidelines have been	Shah MD, Saugstad OD. Newborns at risk of COVID-19. [published online, 2020 May 6]. J Perinat Med. doi:10.1515/jpm-2020-0170



Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	proposed for the care of these mothers/infants; however, global research is needed to understand the outcomes of these various approaches.	
Pregnancy, breast milk samples, vaginal secretions, China	5-May-20	<a href="#">Coronavirus Disease 2019 Among Pregnant Chinese Women: Case Series Data on the Safety of Vaginal Birth and Breastfeeding</a>	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 = 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.	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 study warrants further study of the risk for viral contamination.	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 [published online, 2020 May 5]. BJOG. 2020. doi:10.1111/1471-0528.16276
Neonatal infection, hypoxemia, perioral cyanosis, poor sucking, maternal expressed milk, Italy	4-May-20	<a href="#">Early Neonatal SARS-CoV-2 Infection Manifesting With Hypoxemia Requiring Respiratory Support</a>	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	<a href="#">Evidence for and Against Vertical Transmission for SARS-CoV-2 (COVID-19)</a>	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					(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.		
Neonatal, late onset infection, pregnancy, breastfeeding, maternal antibodies, Italy	2-May-20	<a href="#">Neonatal Late Onset Infection With Severe Acute Respiratory Syndrome Coronavirus 2</a>	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
Pregnancy complications, adverse neonatal outcomes, fetal death, SARS-CoV, MERS-CoV	1-May-20	<a href="#">Potential Implications of SARS-CoV-2 on Pregnancy</a>	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 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.	In light of SARS-CoV-2 having similar pathogenic characteristics as SARS-CoV and MERS-CoV, pregnant women who become infected are at risk for adverse maternal and fetal complications.	Tseng JY. Potential implications of SARS-CoV-2 on pregnancy. Taiwan J Obstet Gynecol. 2020;59(3):464-465. doi:10.1016/j.tjog.2020.03.025
Breastfeeding, Infants, Mother-to-child transmission	1-May-20	<a href="#">Breastfeeding of infants born to mothers with COVID-19: a rapid review</a>	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
						breastfeeding are thus likely to outweigh the risk of COVID-19 infection in infants.	
Children, pediatric emergency department, clinical characteristics, epidemiology, Italy	1-May-20	<a href="#">Children with Covid-19 in Pediatric Emergency Departments in Italy</a>	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	<a href="#">Rapid Advice Guidelines for Management of Children With COVID-19</a>	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 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.	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
Pregnancy, mother-newborn separation, breastfeeding, infection control, prenatal clinics	1-May-20	<a href="#">Coronavirus Disease 2019 (COVID-19) and Pregnancy: Responding to a Rapidly Evolving Situation</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Breastfeeding, social media, Twitter data, scientific guidance	28-Apr-20	<a href="#">Distance, Diffusion, and the Role of Social Media in a Time of COVID Contagion</a>	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	<a href="#">Clinical Presentations and Outcomes of SARS-CoV-2 Infected Neonates in Pregnant Women and Health Status of Their Neonates</a>	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
Pregnancy, vaginal delivery, neonatal infection, vertical transmission, breastfeeding, Italy	27-Apr-20	<a href="#">Vaginal Delivery in SARS-CoV-2 Infected Pregnant Women in Northern Italy: A Retrospective Analysis</a>	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
Pediatrics, neonates, fetal development, breastfeeding	27-Apr-20	<a href="#">Challenges for the Pediatricians During the Coronavirus Disease 2019 (COVID-19) Coronavirus</a>	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
		<a href="#">Disease 2019] Pandemic Start From the Neonatal Period</a>			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.		Period [published online, 2020 Apr 27]. <i>Pediatr Infect Dis J.</i> 2020. doi:10.1097/INF.0000000000002713
Infant, fever, neurologic manifestations, hypertonia, Spain	27-Apr-20	<a href="#">COVID-19: Fever Syndrome and Neurological Symptoms in a Neonate</a>	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]. <i>An Pediatr (Engl Ed).</i> 2020. doi:10.1016/j.anpede.2020.04.001
Children, neonates, breastfeeding, India	26-Apr-20	<a href="#">Do Not Neglect the Children: Considerations for COVID-19 Pandemic</a>	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]. <i>Indian Pediatr.</i> 2020;S097475591600165.
Pregnancy, neonate, vertical transmission, amniotic fluid samples, China	24-Apr-20	<a href="#">Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Vertical Transmission in Neonates Born to Mothers With Coronavirus Disease 2019 Pneumonia</a>	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 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.	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 vertical transmission, although infrequent.	Hu X, Gao J, Luo X, et al. Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Vertical Transmission in Neonates Born to Mothers With Coronavirus Disease 2019 (COVID-19) Pneumonia [published online, 2020 Apr 24]. <i>Obstet Gynecol.</i> 2020. doi:10.1097/AOG.0000000000003926
Pregnancy, exclusion criteria, clinical trial, therapeutics,	24-Apr-20	<a href="#">Protection by Exclusion: Another Missed Opportunity to Include Pregnant Women in</a>	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	Without clear justification for exclusion, clinical trials to develop therapeutics and vaccines against COVID-19 should	Costantine MM, Landon MB, Saade GR. Protection by Exclusion: Another Missed Opportunity to Include Pregnant Women in Research During the

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
vaccine development		<a href="#">Research During the Coronavirus Disease 2019 (COVID-19) Pandemic</a>			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.	include pregnant women.	Coronavirus Disease 2019 (COVID-19) Pandemic [published online, 2020 Apr 24]. <i>Obstet Gynecol.</i> 2020. doi:10.1097/AOG.0000000000003924
Pregnancy, neonates, clinical characteristics, preterm birth, vertical transmission, amniotic fluid, cord blood samples, China	23-Apr-20	<a href="#">Coronavirus Disease 2019 (COVID-19) in Pregnant Women: A Report Based on 116 Cases</a>	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 rupture 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]. <i>Am J Obstet Gynecol.</i> 2020. doi:10.1016/j.ajog.2020.04.014
Pregnancy, neonate, obstetric unit, breastfeeding, India	23-Apr-20	<a href="#">Management of the First Patient With Confirmed COVID-19 in Pregnancy in India: From Guidelines to Frontlines</a>	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]. <i>Int J Gynaecol Obstet.</i> 2020. doi:10.1002/ijgo.13179
Human milk bank, breastfeeding, sanitization, Rome, Italy	23-Apr-20	<a href="#">Use of Disinfectant Wipes to Sanitize Milk's Containers of Human Milk Bank</a>	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	A human milk bank from Rome, Italy reports experiences adapting to the COVID-19 era, through less frequent donated milk collection	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
		<a href="#">k During COVID-19 Pandemic</a>			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 surfaces. Therefore, the HMB has begun to sanitize EHM containers using disinfectant wipes and gloved hands, which is both feasible and sustainable.	and sanitization of containers.	23]. J Hum Lact. 2020. doi:10.1177/0890334420924639
Infant, fever, clinical characteristics, San Francisco	22-Apr-20	<a href="#">Fever Without a Source in a Young Infant Due to SARS-CoV-2</a>	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, hydroxychloroquine, azithromycin	22-Apr-20	<a href="#">Late-Onset Neonatal Sepsis in a Patient With Covid-19</a>	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	<a href="#">Not a luxury: a call to maintain sexual and reproductive health in humanitarian and fragile settings during the COVID-19 pandemic</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, neonate, cesarean delivery, Portugal	20-Apr-20	<a href="#">Cesarean Section in a Pregnant Woman With COVID-19: First Case in Portugal</a>	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	<a href="#">Managing COVID-19-Positive Maternal-Infant Dyads: An Italian Experience</a>	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	<a href="#">Novel Coronavirus Disease (COVID-19) in Children</a>	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	<a href="#">Preterm delivery in pregnant woman with critical COVID-19 pneumonia and vertical transmission</a>	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, Agha janpoor 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
Pregnancy, neonates, clinical characteristics, abortions, breast milk samples, China	17-Apr-20	<a href="#">Clinical Characteristics of Pregnant Women With Covid-19 in Wuhan, China</a>	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	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%)	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.



Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.	underwent cesarean section. All neonates tested negative for COVID-19 infection. Breastmilk samples also tested negative.	doi:10.1056/NEJMc2009226
Neonatal infection, viral RNA, South Korea	16-Apr-20	<a href="#">Sequential analysis of viral load in a neonate and her mother infected with SARS-CoV-2.</a>	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
Neonates, clinical symptoms, the USA	15-Apr-20	<a href="#">SARS-CoV-2 Infection in a 2-Week-Old Male With Neutropenia</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, breastfeeding, therapeutic trials	15-Apr-20	<a href="#">Importance of inclusion of pregnant and breastfeeding women in COVID-19 therapeutic trials.</a>	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	<a href="#">COVID-19 Vaginal Delivery - A Case Report</a>	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	<a href="#">SARS-CoV-2: Is it the Newest Spark in the TORCH?</a>	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	<a href="#">The Intriguing Features of COVID-19 in Children and Its Impact on the Pandemic</a>	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, treatment in children includes fluid and nutritional intake, together with	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.jpmed.2020.04.001

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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	<a href="#">Clinical Characteristics of 19 Neonates Born to Mothers With COVID-19</a>	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, neonate, vertical transmission, breast milk samples	11-Apr-20	<a href="#">Unlikely SARS-CoV-2 Vertical Transmission From Mother to Child: A Case Report</a>	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
Neonatal infection, vertical transmission, breastfeeding, neonatal providers, respiratory strategies, Brazil	11-Apr-20	<a href="#">Neonatal COVID-19: Little Evidence and the Need for More Information</a>	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.	Prociányo 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
Neonate, pregnancy, vaginal delivery, serological testing, breast milk sam	10-Apr-20	<a href="#">Vaginal Delivery Report of a Healthy Neonate Born to a Convalescent Mother With COVID-19</a>	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	A neonate, born to a convalescing mother, tested negative for COVID-19 infection. Although virus-specific IgG and IgM were detected in	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
ples, vertical transmission, China					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.	maternal sera following recovery, antibodies were absent in neonatal sera. Breast milk samples also tested negative.	Med Virol. 2020. doi:10.1002/jmv.25857
Perinatology, pregnancy, neonates	10-Apr-20	<a href="#">Perinatal Aspects on the Covid-19 Pandemic: A Practical Resource for Perinatal-Neonatal Specialists</a>	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 known about disease severity in neonates, and from very few samples, the presence of SARS-CoV-2 has not been documented in human milk.	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-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 href="#">A Spanish-translated clinical algorithm for management of suspected SARS-CoV-2 infection in pregnant women</a>	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, Goncá, 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	<a href="#">COVID-19 infection among asymptomatic and symptomatic pregnant women: Two weeks of confirmed presentations to an affiliated pair of New York City hospitals</a>	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	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	Breslin N, Baptiste C, Gyamfi-Bannerman C, Miller R, Martinez R, Bernstein K, Ring L, Landau R, Purisch S, Friedman AM, Fuchs K, Sutton D, Andrikopoulou M, Ruple D, Sheen J-J, Aubey J, Zork N, Moroz L, Mourad M, Wapner R, Simpson LL, D'Alton ME, Goffman D, 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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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).	precautions. Universal testing of pregnant women upon admission for delivery has potential clinical value, to quickly identify asymptomatic patients.	Obstetrics & Gynecology MFM (2020), doi:10.1016/j.ajogmf.2020.100118
Pregnancy, neonates, vertical transmission, breastfeeding, preterm birth	9-Apr-20	<a href="#">Delivery in Pregnant Women Infected With SARS-CoV-2: A Fast Review</a>	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 using 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
Neonatal resuscitation, post-resuscitation care, pregnancy, perinatal management, breastfeeding	8-Apr-20	<a href="#">Neonatal Resuscitation and Post-resuscitation Care of Infants Born to Mothers with Suspected or Confirmed SARS-CoV-2 Infection.</a>	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
Neonatal infection, clinical characteristics, China	8-Apr-20	<a href="#">Novel Coronavirus Infection in Newborn Babies Under 28 Days in China</a>	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					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.		
Twin pregnancy, gestational diabetes, high-risk pregnancy, breast milk sample, maternal vaginal secretion sample	6-Apr-20	<a href="#">COVID-19 in pregnancy with comorbidities: More liberal testing strategy is needed</a>	Acta Obstetrica et Gynecologica 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 age. Breastmilk and maternal vaginal secretion samples also tested negative on the fifth day.	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. doi:10.1111/aogs.13862
Breastfeeding, expressed mother's milk, neonatology, neonatal management, mother-infant relationship	6-Apr-20	<a href="#">Breast Feeding at the Time of COVID-19: Do Not Forget Expressed Mother's Milk, Please</a>	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	<a href="#">Breastfeeding and Coronavirus Disease-2019. Ad interim indications of the Italian Society of Neonatology endorsed by the Union of European Neonatal &amp;</a>	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, Agosti M, Moretti C, Mosca F. 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;

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
		<a href="#">Perinatal Societies.</a>					e13010. doi:10.1111/mcn.13010
Breastfeeding, donor milk, donor milk banking, breast pump, surface contamination, disinfection	3-Apr-20	<a href="#">Safe Handling of Containers of Expressed Human Milk in all Settings During the SARS-CoV-2 (COVID-19) Pandemic</a>	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 hypochlorite solution, according to WHO) before storage in milk banks, hospital wards, day care centers, or similar locations.	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. doi:10.1177/0890334420919083
Pregnancy, uncomplicated delivery, neonate, United States	1-Apr-20	<a href="#">An Uncomplicated Delivery in a Patient with Covid-19 in the United States</a>	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	<a href="#">COVID-19 Virus and Children: What Do We Know?</a>	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 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.	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
NICU, donor milk bank, breastfeeding, skin-to-skin contact, United States, CDC, WHO	1-Apr-20	<a href="#">U.S. NICUs and Donor Milk Banks Brace for COVID-19</a>	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. <a href="https://doi.org/10.1016/S2352-4642(20)30103-6">https://doi.org/10.1016/S2352-4642(20)30103-6</a>
Infant, isolation room, personal protective equipment, breastfeeding, hygiene precautions	1-Apr-20	<a href="#">Environment and Personal Protective Equipment Tests for SARS-CoV-2 in the Isolation Room of an Infant With Infection.</a>	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	<a href="#">International Perspectives Concerning Donor Milk Banking During the SARS-CoV-2 (COVID-19) Pandemic</a>	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 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.	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 quarantine, and support for breastfeeding mothers.	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. doi:10.1177/0890334420917661



Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Serological testing, vertical transmission, IgM / IgG concentrations, cytokine levels, China	26-Mar-20	<a href="#">Antibodies in Infants Born to Mothers With COVID-19 Pneumonia</a>	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	<a href="#">Possible Vertical Transmission of SARS-CoV-2 From an Infected Mother to Her Newborn</a>	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 days from the time of the mother's diagnosis to delivery. The elevated IgG level may reflect maternal or infant infection.	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
Pregnancy, newborn management, nursing, breastfeeding, neonatal isolation, China	26-Mar-20	<a href="#">Experience of Clinical Management for Pregnant Women and Newborns with Novel Coronavirus Pneumonia in Tongji Hospital, China.</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, pathophysiology, vertical transmission, breastfeeding, skin-to-skin contact	23-Mar-20	<a href="#">Coronavirus Disease 2019 (COVID-19) Pandemic and Pregnancy</a>	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	<a href="#">The first infant case of COVID-19 acquired from a secondary transmission in Vietnam</a>	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
Perinatal transmission, breastmilk samples, breastfeeding, neutralizing antibodies	17-Mar-20	<a href="#">Perinatal Transmission of COVID-19 Associated SARS-CoV-2: Should We Worry?</a>	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 href="#">A 55-Day-Old Female Infant infected with COVID 19: presenting with pneumonia, liver injury, and heart damage</a>	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, neonatal infection, formula feeding, vertical transmission, China	16-Mar-20	<a href="#">Infants Born to Mothers With a New Coronavirus (COVID-19).</a>	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 New Coronavirus (COVID-19). 2020. Front. Pediatr. 8:104. doi: 10.3389/fped.2020.00104
Pregnancy, neonates, infection control	13-Mar-20	<a href="#">What are the risks of COVID-19 infection in pregnant women?</a>	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
Neonatal infection	12-Mar-20	<a href="#">A case report of neonatal COVID-19 infection in China.</a>	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, <a href="https://doi.org/10.1093/cid/ciaa225">https://doi.org/10.1093/cid/ciaa225</a>
Breastfeeding, remdesivir, antiviral therapy, influenza, Ebola	9-Mar-20	<a href="#">Breastfeeding and Respiratory Antivirals: Coronavirus and Influenza.</a>	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	<a href="#">Lack of vertical transmission of severe acute respiratory syndrome coronavirus 2, China.</a>	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. <a href="https://doi.org/10.3201/eid2606.200287">https://doi.org/10.3201/eid2606.200287</a>

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Pregnancy, neonatal infection	5-Mar-20	<a href="#">Novel coronavirus infection and pregnancy.</a>	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. <i>Ultrasound in Obstetrics &amp; Gynecology</i> . 5 March 2020. <a href="https://doi.org/10.1002/ultr.22006">https://doi.org/10.1002/ultr.22006</a>
Pregnancy, WHO, CDC, expert guidance, China	5-Mar-20	<a href="#">Novel coronavirus disease (COVID-19) in pregnancy: What clinical recommendations to follow?</a>	Acta Obstetrica 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 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.	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 coronavirus disease (COVID-19) in pregnancy: What clinical recommendations to follow? <i>Acta Obstet Gynecol Scand</i> . 2020;99(4):439–442. doi:10.1111/aogs.13836
Neonates, prevention, infection control, breastfeeding	4-Mar-20	<a href="#">Proposal for prevention and control of the 2019 novel coronavirus disease in newborn infants</a>	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 <i>Archives of Disease in Childhood - Fetal and Neonatal Edition</i> Published Online First: 04 March 2020. doi:10.1136/archdischild-2020-318996
Pregnancy, viral shedding, breastfeeding	3-Mar-20	<a href="#">Guidelines for pregnant women with suspected SARS-CoV-2 infection.</a>	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. <i>The Lancet Infectious Diseases</i> . 03 March 2020. <a href="https://doi.org/10.1016/S1473-3099(20)30157-2">https://doi.org/10.1016/S1473-3099(20)30157-2</a>

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
Infant, viral load, nasopharynx, breastmilk sample	28-Feb-20	<a href="#">A Well Infant with Coronavirus Disease 2019 (COVID-19) with High Viral Load</a>	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 2020, ciaa201, <a href="https://doi.org/10.1093/cid/ciaa201">https://doi.org/10.1093/cid/ciaa201</a>
Pregnancy, infant, premature birth	28-Feb-20	<a href="#">A case of 2019 Novel Coronavirus in a pregnant woman with preterm delivery</a>	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, <a href="https://doi.org/10.1093/cid/ciaa200">https://doi.org/10.1093/cid/ciaa200</a>
Pregnancy, perinatal infection, breast milk sample, vertical transmission	25-Feb-20	<a href="#">Coronavirus Disease 2019 (COVID-19) During Pregnancy: A Case Series.</a>	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	<a href="#">Coronavirus Disease 2019 (COVID-19) and Pregnancy: What Obstetricians Need to Know</a>	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	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	Rasmussen SA, Smullen JC, Lednicki JA, Wen TS, Jamieson DJ. Coronavirus Disease 2019 (COVID-19) and Pregnancy: What obstetricians need to know [published online ahead of print, 2020 Feb

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
					express breastmilk should be encouraged to do so; breastfeeding can be instituted after she is no longer infectious.	a mother is no longer infectious.	24]. Am J Obstet Gynecol. 2020. doi:10.1016/j.ajog.2020.02.017
Neonatal infection, gastrointestinal symptoms, clinical manifestation, China	16-Feb-20	<a href="#">SARS-CoV-2 infection with gastrointestinal symptoms as first manifestation in a neonate</a>	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	<a href="#">Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records.</a>	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., Luo, F., Yu, X., Zhang, W., ... & Liao, J. (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]. <a href="https://doi.org/10.1016/S0140-6736(20)30360-3">https://doi.org/10.1016/S0140-6736(20)30360-3</a>
Neonatal infection, breastmilk sample, China	11-Feb-20	<a href="#">2019-novel coronavirus infection in a three-month-old baby</a>	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., Wang, J. C., Wei, Y., Lei, Z. X., ... & Xiang, W. (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	<a href="#">Chinese expert consensus on the perinatal and neonatal management for the prevention and control of the 2019 novel coronavirus infection (First edition).</a>	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 control of the 2019 novel

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
							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	<a href="#">Management plan for prevention and control of novel coronavirus pneumonia among children in Xiangya Hospital of Central South University.</a>	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., Wang, M. J., & Zheng, X. R. (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	<a href="#">Emergency response plan for the neonatal intensive care unit during epidemic of 2019 novel coronavirus.</a>	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	<a href="#">Guidance on the Control and Prevention of SARS-CoV-2 Infection in Primary Healthcare Settings in Rural China (First Edition).</a>	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, 2020, 23(7): 763-769. DOI: 10.12114/j.issn.1007-9572.2020.00.246
Perinatal and neonatal management, prevention, China	1-Feb-20	<a href="#">Perinatal and neonatal management plan for prevention and control of 2019 novel coronavirus</a>	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	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

Key Terms	Date Published	Title	Journal / Source	Type of Publication	Summary & Key Points	Specific Observations	Full Citation
		<a href="#">infection (1st Edition).</a>				infection, until after the mother is cured.	infection (1st Edition). Chinese Journal of Contemporary Pediatrics, 2020, 22(2): 87-90. DOI: 10.7499/j.issn.1008-8830.2020.02.001