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Search Pack PN193
Coronavirus (COVID-19) in the infant

Includes coronavirus symptoms and infection in infants, Kawasaki disease-like symptoms in children, vertical disease transmission, infant feeding, infant development following infection, safeguarding infants and children during the pandemic.

Updated 26 April 2021

2021-02573
Multisystem inflammatory syndrome in a neonate, temporally associated with prenatal exposure to SARS-CoV-2: a case report. Kappanayil M, Balan S, Alawani S, et al (2021), The Lancet Child & Adolescent Health vol 5, no 4, April 2021, pp 304-308
Presents the case of a 24-day-old neonate admitted to the paediatric cardiac intensive care unit with severe hyperinflammatory syndrome. The baby's mother had tested positive for COVID-19 at 31 weeks' gestation. (MB)
Available from: https://doi.org/10.1016/S2352-4642(21)00055-9
Full URL: https://doi.org/10.1016/S2352-4642(21)00055-9

2021-02511
SOGC Statement on the COVID-19 vaccines and rare adverse outcomes of thrombosis associated with low platelets. Society of Obstetricians and Gynaecologists of Canada (2021), Ottowa, Canada: SOGC 20 April 2021
Statement from the Society of Obstetricians and Gynaecologists of Canada (SOGC) on COVID-19 vaccination in pregnancy and rare adverse outcomes. SOGC supports the use of all available COVID-19 vaccines approved in Canada in any pregnancy trimester and during breastfeeding in accordance with regional eligibility. (LDO)
Available from: https://sogc.org/common/Uploaded%20files/Latest%20News/EN_Statement-COVID-19_vaccines_rare_adverse_thr**ombosis.pdf**
Full URL: https://sogc.org/common/Uploaded%20files/Latest%20News/EN_Statement-COVID-19_vaccines_rare_adverse_thrombosis.p**df**

2021-02488

Maternal, neonatal and placental characteristics of SARS-CoV-2 positive mothers. Zhang P, Heyman T, Greechan M, et al (2021), Journal of Maternal-Fetal & Neonatal Medicine 28 February 2021, online

Background

COVID19 is caused by a newly identified severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) that affects pregnant women equally to the general population. How SARS-CoV2 affects the mothers, the neonates and the placental pathology remain controversial.

Objective

To explore the effects of maternal SARS-CoV2 infection on the neonates and placental pathology in comparison to those from the normal pregnancies.

Study design

Maternal, neonatal and placental pathology data were collected from medical records between March and August 2020 from New York Presbyterian- Brooklyn Methodist Hospital. The data from a total 142 neonates and 101 placentas from SARS-CoV2 positive mothers were compared with those from SARS-CoV2 negative mothers.

Results

There were 142 SARS-CoV2 positive mothers within the study group, and 43 (36%) of them showed various degrees of COVID19 related clinical symptoms including fever (13.8%), cough (5.7%), loss of taste/smell (anosmia)(5.6%), shortness of breath (2.4%), muscle ache (2.4%), headache (1.6%) and pneumonia (0.8%). A total 142 neonates were born to the SARS-CoV-2 positive mothers, and only 1 neonate tested positive for SARS-CoV2 in the first 24 h. Two additional neonates were initially tested negative in first 24 h, and later tested positive on day 7 and the 1 month visit, and all these neonates were asymptomatic and had no sequelae. There was no increase of pre-term labor and delivery or NICU admissions from SARS-CoV2 positive mothers. Examination of 101 placentas from SARS-CoV2 positive mothers and 121 placentas from SARS-CoV2 negative mothers revealed no increase of placental pathologic features. There were more vaginal deliveries and more meconium stain of fetal membranes from the SARS-CoV2 positive mothers. Previous reports of more maternal vascular malperfusion and fetal vascular malperfusion were not demonstrated in our current data.

Conclusion

Although SARS-CoV2 is a significant risk to the pregnant women (mothers) and general population, there is no increased risk for neonates. Vertical transmission is rare, and perinatal transmission can also occur. There is no increased frequency of placental abnormalities in both maternal and fetal circulation. (Author)

2021-02466

Global investment is needed so that countries can reduce neonatal mortality to below 12 deaths per 1000 live births by 2030. Persson LÅ (2021), Acta Paediatrica vol 110, no 1, January 2021, pp 14-16

Editorial discussing the Sustainable Development Goals and the strategy to reduce neonatal mortality to 12 per 1000 live births or lower by 2030. Highlights an article by Cavallin et al (1) which analyses the management of newborn babies in Ethiopia.

1. Cavallin F et al. Acta Paediatrica, vol 110, no 1, January 2021, pp 68-71. https://doi.org/10.1111/apa.15463. (LDO)

Available from: https://doi.org/10.1111/apa.15530

Full URL: https://doi.org/10.1111/apa.15530

2021-02465

Aerosol generation by respiratory support of neonates may be low. Poorisrisak P, Bivolarova MP, Bekö G, et al (2020), Acta Paediatrica 29 November 2020, online

Brief report aiming to measure average aerosol particle mass concentration and size distribution near infants receiving respiratory support in the neonatal intensive care unit. This study may be used to assess risk of aerosol transmission from infants with COVID-19 to health care staff during respiratory support. (LDO)

Available from: https://doi.org/10.1111/apa.15704
Full URL: https://doi.org/10.1111/apa.15704

2021-02461

Using the COVID-19 as an excuse for unjustified devaluation of preterm infants. Haward MF, Janvier A, Lorenz JM (2021), Acta Paediatrica vol 110, no 4, April 2021, pp 1097-1099

Editorial discussing the ethics of providing care to premature infants during the COVID-19 pandemic. The authors disagree with Kaempf et al (1) and suggest that depriving care to extremely premature infants may be seen as coercive.

1. Kaempf JW et al. Acta Paediatrica, vol 110, no 4, April 2021, pp 1100-1103. (LDO)

Available from: https://doi.org/10.1111/apa.15744
Full URL: https://doi.org/10.1111/apa.15744

2021-02416

SARS-CoV-2 detection in human milk: a systematic review. Kumar J, Meena J, Yadav A, et al (2021), Journal of Maternal-Fetal & Neonatal Medicine 8 February 2021, online

Purpose

To synthesize the current evidence for the presence of SARS-CoV-2 RNA in the human milk of mothers with confirmed COVID-19 and its potential role in neonatal SARS-CoV-2 infection.

Materials and methods

Using terms related to novel coronavirus 2019 and human milk, a systematic search was performed in three electronic databases (PubMed, EMBASE, and Web of Science) for studies published between December 2019 and 15 October 2020. Published peer-reviewed studies reporting the results of RT-PCR for SARS-CoV-2 RNA in human milk in mothers with confirmed COVID-19 were included. Proportion meta-analysis of case series and prospective cohort studies was performed using STATA version 14.2 (StataCorp, College Station, TX) and pooled estimate (with 95% confidence interval) of overall incidence of SARS-CoV-2 transmission was calculated.

Results

We identified 936 records, of which 34 studies (24 case-reports, 10 cohort studies) were eligible for this systematic review. A total of 116 confirmed COVID-19 lactating women (88 in cohort and 28 in case-reports) underwent RT-PCR testing in human milk, and 10 (six in case reports) were detected to have SARS-CoV-2 RNA. The overall pooled proportion (from cohort studies) for SARS-CoV-2 RNA detection in human milk was 2.16% (95% CI: 0.0–8.81%, I 2: 0%). Four studies (six patients) also reported the presence of SARS-CoV-2 specific antibodies (along with RT-PCR) in human milk.

Conclusions

The limited low-quality evidence suggests that SARS-CoV-2 RNA is detected in human milk in an extremely low proportion, however, based on current evidence no conclusion can be drawn about its infectivity and impact on the infants. In concordance with World Health Organization recommendations, exclusive breastfeeding should be

considered in all cases unless any other contraindication exists. (Author)

2021-02363

Breastfeeding During a Pandemic: The Influence of COVID-19 on Lactation Services in the Northeastern United States. Schindler-Ruwisch J, Phillips KE (2021), Journal of Human Lactation 18 March 2021, online

Background

Pandemic-related restrictions have limited traditional models of lactation support.

Research Aims

The primary aim of this study was to determine changes to breastfeeding support services during the coronavirus-2019 pandemic according to trained lactation providers. The secondary aim was to assess strengths and limitations of telehealth services.

Methods

A prospective survey was conducted entirely online using the Qualtrics platform during June 2020. Gatekeepers at Connecticut agencies and breastfeeding networks were forwarded an anonymous survey link to distribute to eligible lactation staff.

Results

A variety of participants (N = 39) completed the survey and the majority (69.2%; n = 27) were providing only telehealth services. More than half (58.1%; n = 18) of the participants who conducting telehealth in any form, found that virtual lactation support was moderately effective compared to in-person support. Weakness of virtual support included technical and logistical difficulties, challenges assisting with latching or reading body language over the phone or online, and accurately assessing infant growth. Strengths related to virtual support included the flexibility and convenience of home-based support, expanded communication strategies, and safety from virus exposure. Further, visits with a lactation professional decreased significantly during the pandemic. Limited in-hospital and pediatrician support were also noted, particularly among groups without access to telehealth resources.

Conclusions

As a result of the pandemic and associated shifts in lactation services, breastfeeding disparities may be further exacerbated among those without equitable access to lactation support. Challenges and innovations in virtual support may influence adaptive options in the field moving forward. (Author)

Available from: https://doi.org/10.1177/08903344211003898

Full URL: https://doi.org/10.1177/08903344211003898

2021-02344

A Case Study Supporting Lack of SARS-CoV-2 Spread to a 3-Month Old Infant Through Exclusive Breastfeeding. Liu W, Liu Y, Liu Z, et al (2021), Journal of Human Lactation 13 February 2021, online

Introduction

During the Coronavirus Disease 2019 global pandemic, maternal and newborn wellbeing has received much attention. Detailed reports of infected women breastfeeding their infants are uncommon. Due to incomplete information available, full data about those infants' outcomes are lacking, and evidence of infectivity through breastfeeding has not been documented.

Main Issue
Here, we report about a mother who breastfed her infant until she was confirmed with the SARS-Cov-2 infection. After follow-up, we have confirmed that the infant, who was breastfed by the infected mother, was not infected.

Methods
A 33-year-old woman gave birth to a full-term male infant on November 8, 2019. Since birth, she had been exclusively breastfeeding the baby until she was confirmed with the SARS-Cov-2 infection on February 8, 2020. She was hospitalized, isolated from her baby, and stopped breastfeeding. Even though she remained asymptomatic, her milk was expressed using a breast pump and discarded. The mother's milk sample was collected on February 9, 2020, and the result of the nucleic acid test for COVID-19 was negative. Her infant was asymptomatic and remained virus negative. Her laboratory findings and chest Computed Tomography imaging was normal. She was treated according to the national protocol with aerosolized interferon α2β, lopinavir/ritonavir and ribavirin. Her serum SARS-CoV-2 specific antibodies(IgG and IgM) tested positive when discharged. She returned to breastfeeding after discharge.

Conclusion
Our findings suggest that breastfeeding may be less of a risk than anticipated. Additional research is needed to explore this possibility. (Author)

2021-02317
Maternal, neonatal and placental characteristics of SARS-CoV-2 positive mothers. Zhang P, Heyman T, Greechan M, et al (2021), Journal of Maternal-Fetal & Neonatal Medicine 28 February 2021, online
Background
COVID19 is caused by a newly identified severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) that affects pregnant women equally to the general population. How SARS-CoV2 affects the mothers, the neonates and the placental pathology remain controversial.

Objective
To explore the effects of maternal SARS-CoV2 infection on the neonates and placental pathology in comparison to those from the normal pregnancies.

Study design
Maternal, neonatal and placental pathology data were collected from medical records between March and August 2020 from New York Presbyterian- Brooklyn Methodist Hospital. The data from a total 142 neonates and 101 placentas from SARS-CoV2 positive mothers were compared with those from SARS-CoV2 negative mothers.

Results
There were 142 SARS-CoV2 positive mothers within the study group, and 43 (36%) of them showed various degrees of COVID19 related clinical symptoms including fever (13.8%), cough (5.7%), loss of taste/smell (anosmia)(5.6%), shortness of breath (2.4%), muscle ache (2.4%), headache (1.6%) and pneumonia (0.8%). A total 142 neonates were born to the SARS-CoV-2 positive mothers, and only 1 neonate tested positive for SARS-CoV2 in the first 24 h. Two additional neonates were initially tested negative in first 24 h, and later tested positive on day 7 and the 1 month visit, and all these neonates were asymptomatic and had no sequelae. There was no increase of pre-term labor and delivery or NICU admissions from SARS-CoV2 positive mothers. Examination of 101 placentas from SARS-CoV2 positive mothers and 121 placentas from SARS-CoV2 negative mothers revealed no increase of placental pathologic features. There were more vaginal deliveries and more meconium stain of fetal membranes from the SARS-CoV2 positive mothers. Previous reports of more maternal vascular malperfusion and fetal vascular malperfusion were not

demonstrated in our current data.

Conclusion
Although SARS-CoV2 is a significant risk to the pregnant women (mothers) and general population, there is no increased risk for neonates. Vertical transmission is rare, and perinatal transmission can also occur. There is no increased frequency of placental abnormalities in both maternal and fetal circulation.

2021-02301
SARS-CoV-2–Specific Antibodies in Breast Milk After COVID-19 Vaccination of Breastfeeding Women. Perl SH, Uzan-Yulzari A, Klainer H, et al (2021), JAMA (Journal of the American Medical Association) 12 April 2021, online
Research letter exploring whether maternal immunisation results in secretion of SARS-CoV-2 antibodies into breast milk, and evaluating any potential adverse outcomes among women and their infants. (LDO)
Available from: https://doi.org/10.1001/jama.2021.5782
Full URL: https://doi.org/10.1001/jama.2021.5782

2021-02255
Family-centered care management strategies for term and near-term neonates with brief hospitalization in a level III NICU in Shenzhen, China during the time of COVID-19 pandemic. Yi Y-Z, Su T, Jia Y-Z, et al (2021), Journal of Maternal-Fetal & Neonatal Medicine 22 March 2021, online
Background
Adopting the family-centered care (FCC) approach in the neonatal care has been shown to improve breastfeeding rate and parental satisfaction. To minimize the transmission of COVID-19, family visit in neonatal intensive care unit (NICU) was suspended in China. In order to maintain the benefits of FCC, the Hong Kong University-Shenzhen Hospital NICU modified FCC strategies. We evaluated the effects of new strategies and aimed to share our results and experience with other NICUs during the COVID-19 pandemic.

Methods
Using prospectively collected hospital databases, we retrospectively compared the demographic and clinical data of neonates, rates of breastfeeding at discharge, nosocomial infection and parental satisfaction one month before (open group) and after (closed group) the implementation of alternative FCC management strategies when family visit was suspended during COVID-19 pandemic.

Results
During the COVID-19 pandemic, we organized a multidisciplinary task force and adopted strategies of triage and screening, management of suspected infants, and breastfeeding promotion with effective communication. The nosocomial infection rate and parental satisfaction for open and closed groups (144 and 108 term and near-term neonates with brief hospitalization, respectively) were not different (1% vs. 0%, p = 1.00; 98.6 vs. 98.8, p = .80; respectively). Breastfeeding rate at discharge decreased but the difference was not significant (74% vs. 80%, p = .29).

Conclusions
In our experience, in term and near-term neonates with brief hospitalization, the alternative FCC strategies maintained high parental satisfaction without increased nosocomial infection rate, but strong support for breastfeeding was needed. Through multidisciplinary collaboration, the continuation of “modified” FCC in a level III NICU is feasible in the context of COVID-19 pandemic with reduced family visitation and participation in the care.

2021-02251

Assessment of Respiratory Function in Infants and Young Children Wearing Face Masks During the COVID-19 Pandemic. Lubrano R, Bloise S, Testa A, et al (2021), JAMA Network Open vol 4, no 3, March 2021, e210414

Importance Face masks have been associated with effective prevention of diffusion of viruses via droplets. However, the use of face masks among children, especially those aged younger than 3 years, is debated, and the US Centers for Disease Control and American Academy of Physicians recommend the use of face mask only among individuals aged 3 years or older.

Objective To examine whether the use of surgical facial masks among children is associated with episodes of oxygen desaturation or respiratory distress.

Design, Setting, and Participants This cohort study was conducted from May through June 2020 in a secondary-level hospital pediatric unit in Italy. Included participants were 47 healthy children divided by age (ie, group A, aged ≤24 months, and group B, aged >24 months to ≤144 months). Data were analyzed from May through June 2020.

Interventions All participants were monitored every 15 minutes for changes in respiratory parameters for the first 30 minutes while not wearing a surgical face mask and for the next 30 minutes while wearing a face mask. Children aged 24 months and older then participated in a walking test for 12 minutes.

Main Outcomes and Measures Changes in respiratory parameters during the use of surgical masks were evaluated.

Results Among 47 children, 22 children (46.8%) were aged 24 months or younger (ie, group A), with 11 boys (50.0%) and median (interquartile range [IQR]) age 12.5 (10.0-17.5) months, and 25 children (53.2%) were aged older than 24 months to 144 months or younger, with 13 boys (52.0%) and median (IQR) age 100.0 (72.0-120.0) months. During the first 60 minutes of evaluation in the 2 groups, there was no significant change in group A in median (IQR) partial pressure of end-tidal carbon dioxide (Petco2; 33.0 [32.0-34.0] mm Hg; P for Kruskal Wallis = .59), oxygen saturation (Sao2; 98.0% [97.0%-99.0%]; P for Kruskal Wallis = .61), pulse rate (PR; 130.0 [115.0-140.0] pulsations/min; P for Kruskal Wallis = .99), or respiratory rate (RR; 30.0 [28.0-33.0] breaths/min; P for Kruskal Wallis = .69) or for group B in median (IQR) Petco2 (36.0 [34.0-38.0] mm Hg; P for Kruskal Wallis = .97), Sao2 (98.0% [97.0%-98.0%]; P for Kruskal Wallis = .52), PR (96.0 [84.0-104.5] pulsations/min; P for Kruskal Wallis test = .48), or RR (22.0 [20.0-25.0] breaths/min; P for Kruskal Wallis = .55). After the group B walking test, compared with before the walking test, there was a significant increase in median (IQR) PR (96.0 [84.0-104.5] pulsations/min vs 105.0 [100.0-115.0] pulsations/min; P < .02) and RR (22.0 [20.0-25.0] breaths/min vs 26.0 [24.0-29.0] breaths/min; P < .05).

Conclusions and Relevance This cohort study among infants and young children in Italy found that the use of facial masks was not associated with significant changes in Sao2 or Petco2, including among children aged 24 months and younger.

Available from: https://doi.org/10.1001/jamanetworkopen.2021.0414
Full URL: https://doi.org/10.1001/jamanetworkopen.2021.0414

2021-02240

Parental access to neonatal units: inconsistency during the COVID-19 pandemic. Fonfe A, Clements D, McKechnie L (2021), Infant vol 17, no 2, March 2021

An electronic survey was conducted to determine policy changes to parental access on neonatal units during the COVID-19 pandemic in the UK. The survey found that all responding units changed their policies and in many, parents were not allowed to visit their baby together. The survey highlights potential negative effects these policy changes

are having on babies, their families and neonatal staff. Allowing parents to spend time with their baby together in a safe way during this pandemic should be a priority in neonatal care and this article considers ways in which the neonatal team can support this. (Author)

2021-02235
Neonatal SARS-CoV-2 infection: is this a vertical transmission?. Adeniyi F, Rath S, Wey Y (2021), Infant vol 17, no 2, March 2021
Neonatal COVID-19, its manifestations and transmission, remains unclear. As the pandemic continues more evidence will emerge but so far, vertical transmission of COVID-19 is rare with just a few reports in the literature.1 We share our experience of managing a preterm newborn with COVID-19 in our neonatal intensive care unit (NICU) where the vertical route seems the most likely mode of transmission. (Author)

2021-02195
Clinical Characteristics and Disease Severity Among Infants With SARS-CoV-2 Infection in Montreal, Quebec, Canada. Panetta L, Proulx C, Drouin O, et al (2020), JAMA Network Open vol 3, no 12, December 2020, e2030470
This case series describes clinical characteristics and disease severity in infants who had SARS-CoV-2 infection in Montreal, Quebec, Canada.
Available from: https://doi.org/10.1001/jamanetworkopen.2020.30470
Full URL: https://doi.org/10.1001/jamanetworkopen.2020.30470

2021-02187
Assessment of Maternal and Neonatal SARS-CoV-2 Viral Load, Transplacental Antibody Transfer, and Placental Pathology in Pregnancies During the COVID-19 Pandemic. Edlow AG, Li JZ, Collier A-RY, et al (2020), JAMA Network Open vol 3, no 12, December 2020, e2030455
Importance Biological data are lacking with respect to risk of vertical transmission and mechanisms of fetoplacental protection in maternal severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection.

Objective To quantify SARS-CoV-2 viral load in maternal and neonatal biofluids, transplacental passage of anti–SARS-CoV-2 antibody, and incidence of fetoplacental infection.

Design, Setting, and Participants This cohort study was conducted among pregnant women presenting for care at 3 tertiary care centers in Boston, Massachusetts. Women with reverse transcription–polymerase chain reaction (RT-PCR) results positive for SARS-CoV-2 were recruited from April 2 to June 13, 2020, and follow-up occurred through July 10, 2020. Contemporaneous participants without SARS-CoV-2 infection were enrolled as a convenience sample from pregnant women with RT-PCR results negative for SARS-CoV-2.

Exposures SARS-CoV-2 infection in pregnancy, defined by nasopharyngeal swab RT-PCR.

Main Outcomes and Measures The main outcomes were SARS-CoV-2 viral load in maternal plasma or respiratory fluids and umbilical cord plasma, quantification of anti–SARS-CoV-2 antibodies in maternal and cord plasma, and presence of SARS-CoV-2 RNA in the placenta.

Results Among 127 pregnant women enrolled, 64 with RT-PCR results positive for SARS-CoV-2 (mean [SD] age, 31.6 [5.6] years) and 63 with RT-PCR results negative for SARS-CoV-2 (mean [SD] age, 33.9 [5.4] years) provided samples for analysis. Of women with SARS-CoV-2 infection, 23 (36%) were asymptomatic, 22 (34%) had mild disease, 7 (11%) had moderate disease, 10 (16%) had severe disease, and 2 (3%) had critical disease. In viral load analyses among 107 women, there was no detectable viremia in maternal or cord blood and no evidence of vertical transmission. Among

77 neonates tested in whom SARS-CoV-2 antibodies were quantified in cord blood, 1 had detectable immunoglobuilin M to nucleocapsid. Among 88 placentas tested, SARS-CoV-2 RNA was not detected in any. In antibody analyses among 37 women with SARS-CoV-2 infection, anti–receptor binding domain immunoglobin G was detected in 24 women (65%) and anti-nucleocapsid was detected in 26 women (70%). Mother-to-neonate transfer of anti–SARS-CoV-2 antibodies was significantly lower than transfer of anti-influenza hemagglutinin A antibodies (mean [SD] cord-to-maternal ratio: anti–receptor binding domain immunoglobin G, 0.72 [0.57]; anti-nucleocapsid, 0.74 [0.44]; anti-influenza, 1.44 [0.80]; P < .001). Nonoverlapping placental expression of SARS-CoV-2 receptors angiotensin-converting enzyme 2 and transmembrane serine protease 2 was noted.

Conclusions and Relevance In this cohort study, there was no evidence of placental infection or definitive vertical transmission of SARS-CoV-2. Transplacental transfer of anti-SARS-CoV-2 antibodies was inefficient. Lack of viremia and reduced coexpression and colocalization of placental angiotensin-converting enzyme 2 and transmembrane serine protease 2 may serve as protective mechanisms against vertical transmission.
Available from: https://doi.org/10.1001/jamanetworkopen.2020.30455
Full URL: https://doi.org/10.1001/jamanetworkopen.2020.30455

2021-02178
High Levels of Interferon-Alpha Expressing Macrophages in Human Breast Milk During SARS-CoV-2 Infection: A Case

Report. Yu JC, Khodadadi H, Lopes Salles É, et al (2021), Breastfeeding Medicine 30 March 2021, online
Introduction: In addition to hand washing and wearing masks, social distancing and reducing exposure time to <15 minutes are the most effective measures against the spread of COVID-19. Unfortunately, three of these guidelines are very difficult, if not impossible, for nursing babies: they cannot wear masks, stay six feet away from the lactating breasts, nor consistently finish within 15 minutes while nursing. We report a case of a nursing mother with SARS-CoV-2 infection, documenting changes of immune cells and cytokines in breast milk with and without the infection.

Case Description: With Institutional Review Board (IRB) approval, we obtained expressed breast milk samples from a lactating mother before and during SARS-CoV-2 infection as documented by reverse transcription-PCR. Using flow cytometry analysis, we measured the immune cell profiles and expression of cytokines such as interferon alpha (IFNα) in milk leukocytes before and during infection.

Results: There was an eightfold increase in IFNα+ milk leukocytes, from 1% before SARS-CoV-2 infection to 8% when actively infected. The milk macrophages showed the highest increase in IFNα expression. Both T and B lymphocytes showed mild increase. Innate lymphoid cells, neutrophils, and natural killer cells showed no increase in IFNα expression and the dendritic cells actually showed a reduction.

Conclusion: We document the presence and high expression of IFNα in the breast milk macrophages of a lactating mother with confirmed COVID-19, compared with her milk before the infection. (Author)
Available from: https://doi.org/10.1089/bfm.2020.0369
Full URL: https://doi.org/10.1089/bfm.2020.0369

2021-02164

Comparison of Severe Acute Respiratory Syndrome Coronavirus 2-Specific Antibodies' Binding Capacity Between Human Milk and Serum from Coronavirus Disease 2019-Recovered Women. Demers-Mathieu V, DaPra C, Medo E (2021), Breastfeeding Medicine 9 April 2021, online

Background: Human milk from coronavirus disease 2019 (COVID-19)-recovered women may be useful as oral antibody therapy to prevent severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and provide long-term immunity to neonates and young children. As convalescent plasma is already used as antibody therapy, this study aimed to compare the binding capacity of antibodies specific to the receptor-binding domain (RBD) of SARS-CoV-2 between human milk and serum from COVID-19-recovered women.

Materials and Methods: The areas under the curve (AUCs) for IgA, IgM, and IgG specific to the SARS-CoV-2 RBD in human milk and serum samples were measured using enzyme-linked immunosorbent assay. Milk samples were collected from 12 COVID-19-recovered women, while serum samples were from 10 COVID-19-recovered women. The antibody concentrations were also determined.

Results: Our study reveals that SARS-CoV-2 RBD-specific antibody titers differed between human milk and serum samples from COVID-19-recovered women. When the AUCs were not divided by the antibody concentration, SARS-CoV-2 RBD-specific IgA, IgM, and IgG levels were higher in the serum sample group than the human milk group ($p < 0.001$). However, the titers of SARS-CoV-2 RBD-specific IgM (AUC/μg of IgM) and IgG (AUC/μg of IgG) were higher in human milk samples than serum samples ($p < 0.05$). The titer of SARS-CoV-2 RBD-specific IgA (AUC/mg of IgA) was higher in the serum sample group than the human milk group ($p < 0.01$).

Conclusions: Human milk antibodies specific to the RBD of SARS-CoV-2 must be purified to obtain comparable binding capacity observed with SARS-CoV-2 RBD-specific serum antibodies. (Author)

Available from: https://doi.org/10.1089/bfm.2020.0381
Full URL: https://doi.org/10.1089/bfm.2020.0381

2021-02062

Pregnancy, Postpartum Care, and COVID-19 Vaccination in 2021. Rasmussen SA, Jamieson DJ (2021), JAMA (Journal of the American Medical Association) Vol 325, no 11, 16 March 2021, pp 1099-1100

This JAMA Insights review summarizes the epidemiology of SARS-CoV-2 infection in pregnant and lactating women, its effects on perinatal outcomes, and compiles guidance from the CDC, FDA, and obstetrics-gynecology specialty organizations on the safety of coronavirus vaccines during pregnancy and while breastfeeding.

Available from: https://doi.org/10.1001/jama.2021.1683
Full URL: https://doi.org/10.1001/jama.2021.1683

2021-02061

COVID-19 Vaccination in Pregnant and Lactating Women. Adhikari EH, Spong CY (2021), JAMA (Journal of the American Medical Association) Vol 325, no 11, 16 March 2021, pp 1039-1040

This Viewpoint discusses the need for shared decision-making when counseling pregnant and nursing women about the unstudied benefits and risks COVID-19 vaccination, calling for rigorously designed studies with real-time, proactive data collection to establish evidence as quickly as possible about coronavirus vaccine safety in mothers and their infants.

Available from: https://doi.org/10.1001/jama.2021.1658
Full URL: https://doi.org/10.1001/jama.2021.1658

2021-02013

Why are so many babies dying of Covid-19 in Brazil?. Passarinho N, Barrucho L (2021), BBC News 15 April 2021
Reports that, despite the evidence that COVID-19 in babies is rarely fatal, in Brazil, 1300 young children have succumbed to the virus.

Figures from the Brazilian Ministry of Health show that between February 2020 and 15 March 2021, 852 children aged nine and under, including 518 who were less than 12 months old, died of COVID-19. But Dr Fatima Marinho believes the actual number is much higher than this, with the lack of COVID testing leading to underreporting of the disease.

Brazil has the second highest number of COVID cases in the world, and this has increased the likelihood of babies and young children contracting the illness.

Includes the personal experience of Jessika Ricarte, whose one-year-old son, Lucas, died from complications of coronavirus, two months after falling ill and having been refused a test for COVID, as his symptoms were not typical. (JSM)
Available from: https://www.bbc.co.uk/news/world-latin-america-56696907
Full URL: https://www.bbc.co.uk/news/world-latin-america-56696907

2021-01803

Could children born to mothers with COVID-19 be more prone to non-communicable diseases?. Malamitsi-Puchner A, Briana DD, Giudice L, et al (2021), Acta Paediatrica vol 110, no 4, April 2021, pp 1367-1368
Commentary on the potential increase in non-communicable diseases for infants born to mothers with COVID-19. The authors suggest that long-term follow-up studies are urgently needed. (LDO)
Available from: https://doi.org/10.1111/apa.15757
Full URL: https://doi.org/10.1111/apa.15757

2021-01791

The aftermath of SARS-CoV-2 in NICU: saving or checking accounts? Projected cost-effectiveness analysis. Galderisi A, Lolli E, Cavicchiolo ME, et al (2021), European Journal of Pediatrics vol 180, no 5, May 2021, pp 1631-1635
In the aftermath of the SARS-CoV-2 pandemic, we revised the cost-effectiveness of the exploited interventions in neonatal intensive care unit, to redefine future strategies for hospital management. Costs were revised with respect to the lockdown R0 or under different R0 scenarios to estimate the cost-effectiveness of the screening program adopted. Weekly nasopharyngeal swabs for parents, neonates, and personnel were the major cost during the pandemic, although they effectively reduced the number of cases in our unit.

Conclusion: Parents and healthcare personnel testing appears to be an effective strategy due to the high number of contact they have within the hospital environment and outside, able to minimize the cases within our unit. (Author)
Available from: https://doi.org/10.1007/s00431-020-03884-1
Full URL: https://doi.org/10.1007/s00431-020-03884-1

2021-01786

Compassionate use of remdesivir in children with COVID-19. Méndez-Echevarría A, Pérez-Martínez A, Gonzalez del Valle L, et al (2021), European Journal of Pediatrics vol 180, no 4, April 2021, pp 1317-1322
Children represent a minority of total COVID-19 cases, but studies have reported severe disease and death in pediatric patients. Remdesivir (RDV) has recently demonstrated promising results in adults with COVID-19, but few data have been reported to date in children.

A nationwide multicenter observational study was conducted on children with confirmed SARS-CoV-2 receiving compassionate treatment with RDV in Spain. Eight patients were included in the study, four infants and four older children [median age 5 years old; IQR 4 months–11.6 years old]. Half of them had complex underlying medical conditions, and the rest were mostly infants (3/4). Six out of eight children needed Pediatric Intensive Care Unit

Admission. No RDV-related adverse outcomes were observed in our patients. Seven have reached successful clinical outcome, but one patient with serious clinical status died due to complications. However, she received RDV very late after the first COVID-19 symptom.

Conclusions: In our cohort, most of the patients achieved successful clinical outcome, without observing adverse events. Clinical trials of RDV therapy for children with COVID-19 are urgently needed, to assess the safety, tolerability, efficacy, and pharmacokinetics of RDV in children, as this could be an effective treatment in severe cases. (Author)
Available from: https://doi.org/10.1007/s00431-020-03876-1
Full URL: https://doi.org/10.1007/s00431-020-03876-1

2021-01773
SARS-CoV-2 genome and antibodies in breastmilk: a systematic review and meta-analysis. Zhu F, Zozaya C, Zhou Q, et al (2021), Archives of Disease in Childhood: Fetal and Neonatal Edition 10 February 2021, online
Abstract
Objective To systematically review and meta-analyse the rate of SARS-CoV-2 genome identification and the presence of SARS-CoV-2 antibodies in breastmilk of mothers with COVID-19.

Design A systematic review of studies published between January 2019 and October 2020 without study design or language restrictions.

Setting Data sourced from Ovid Embase Classic+Embase, PubMed, Web of Science, Scopus, relevant bibliographies and the John Hopkins University COVID-19 database.

Patients Mothers with confirmed COVID-19 and breastmilk tested for SARS-CoV-2 by RT-PCR or for anti-SARS-CoV-2 antibodies.

Main outcome measures Presence of SARS-CoV-2 genome and antibodies in breastmilk.

Results We included 50 articles. Twelve out of 183 women from 48 studies were positive for SARS-CoV-2 genome in their breastmilk (pooled proportion 5% (95% CI 2% to 15%; I2=48%)). Six infants (50%) of these 12 mothers tested positive for SARS-CoV-2, with one requiring respiratory support. Sixty-one out of 89 women from 10 studies had anti-SARS-CoV-2 antibody in their breastmilk (pooled proportion 83% (95% CI 32% to 98%; I2=88%)). The predominant antibody detected was IgA.

Conclusions SARS-CoV-2 genome presence in breastmilk is uncommon and is associated with mild symptoms in infants. Anti-SARS-CoV-2 antibodies may be a more common finding. Considering the low proportion of SARS-CoV-2 genome detected in breastmilk and its lower virulence, mothers with COVID-19 should be supported to breastfeed.
Available from: http://dx.doi.org/10.1136/archdischild-2020-321074
Full URL: http://dx.doi.org/10.1136/archdischild-2020-321074

2021-01767

Perinatal COVID-19: review of current evidence and practical approach towards prevention and management. Vardhelli V, Pandita A, Pillai A, et al (2021), European Journal of Pediatrics vol 180, no 4, April 2021, pp 1009-1031

The clinical spectrum of the perinatal COVID-19 and prospective data on neonatal outcomes remains largely unexplored. Most of the existing literature is in the form of case series or single-centre experience. In this review, we aim to summarize available literature on the clinical spectrum of COVID-19 in neonates and mothers and suggest a practical approach towards management of clinical scenarios. This review explores the clinical characteristics and outcomes of COVID-19 in neonates born to mothers who were detected with the virus during the pregnancy. We conducted a comprehensive search of PubMed, Google Scholar and Cochrane Database of Systematic Review between November 2019 and June 2020 and screened articles related to perinatal COVID-19. This review included 786 mothers, among which 64% (504) were delivered by caesarian section. There were 3 still births and 107 (14%) were delivered preterm. Out of 793 neonates born, 629 neonates (79%) were tested after birth. The commonest symptom in neonates was respiratory distress. Respiratory support was needed in 60 neonates (7.6%), with 14 babies needing mechanical ventilation (1.8%), 25 needing non-invasive ventilation and 21 needing nasal oxygen. Only 35 of the 629 tested neonates (5.5%) were positive for COVID-19. Of the 35 positive neonates, 14 (40%) were symptomatic. The COVID-19 seems to have favourable neonatal outcomes. Majority of neonates are asymptomatic. Respiratory distress is the most common manifestation. (Author)

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Full URL: https://doi.org/10.1007/s00431-020-03866-3

2021-01766

What chances do children have against COVID-19? Is the answer hidden within the thymus?. Güneş H, Dinçer S, Acıpayam C, et al (2021), European Journal of Pediatrics vol 180, no 3, March 2021, pp 983-986

A new type of coronavirus named as SARS-CoV-2 pandemic has begun to threaten human health. As with other types of coronaviruses, SARS-CoV-2 affects children less frequently, and it has been observed that the disease is mild. In the pathogenesis of a standard viral infection, the pathogen's contact with the mucosa is initially followed by an innate immunity response. T cells are the primary decisive element in adaptive immunity capability. For this reason, the adaptive immune response mediated by the thymus is a process that regulates the immune response responsible for preventing invasive damage from a virus. Regulatory T cells (T-reg) are active during the early periods of life and have precise roles in immunomodulation. The thymus is highly active in the intrauterine and neonatal period; it begins to shrink after birth and continues its activity until adolescence. The loss of T-reg function by age results in difficulty with the control of the immune response, increased inflammation as shown in coronavirus disease (COVID-19) as an inflammatory storm. Also, the thymus is typically able to replace the T cells destroyed by apoptosis caused by the virus. Thymus and T cells are the key factors of pathogenesis of SARS-CoV-2 in children.

Conclusion: We speculated that thymus activity and T lymphocyte function in children protect them against the virus effects. Stimulating and preventing the inhibition of the thymus can be possible treatment components against COVID-19. (Author)

Available from: https://doi.org/10.1007/s00431-020-03841-y
Full URL: https://doi.org/10.1007/s00431-020-03841-y

2021-01763

A multicenter study on epidemiological and clinical characteristics of 125 newborns born to women infected with COVID-19 by Turkish Neonatal Society. Oncel MY, Akın IM, Kanburoglu MK, et al (2021), European Journal of Pediatrics vol 180, no 3, March 2021, pp 733-742

Limited data are available on pregnant women with COVID-19 and their neonates. We aimed to evaluate the epidemiological and clinical characteristics of newborns born to women infected with COVID-19. A multicenter cohort study was conducted among newborns born to mothers with COVID-19 in 34 neonatal intensive care units (NICUs) in Turkey. Pregnant women (n = 125) who had a positive RT-PCR test and their newborns were enrolled. Cesarean section, prematurity, and low-birthweight infant rates were 71.2%, 26.4%, and 12.8%, respectively. Eight of 125 mothers (6.4%) were admitted to an intensive care unit for mechanical ventilation, among whom six died (4.8%). Majority of the newborns (86.4%) were followed in isolation rooms in the NICU. Four of 120 newborns (3.3%) had a positive RT-PCR test result. Although samples taken on the first day were negative, one neonate became positive on the second day and the other two on the fifth day. Sample from deep tracheal aspirate was positive on the first day in an intubated case.

Conclusion: COVID-19 in pregnant women has important impacts on perinatal and neonatal outcomes. Maternal mortality, higher rates of preterm birth and cesarean 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.

Trial registration: ClinicalTrials.gov identifier: NCT04401540 (Author)

Available from: https://doi.org/10.1007/s00431-020-03767-5

Full URL: https://doi.org/10.1007/s00431-020-03767-5

2021-01743

Universal screening of high-risk neonates, parents, and staff at a neonatal intensive care unit during the SARS-CoV-2 pandemic. Cavicchiolo ME, Trevisanuto D, Lolli E, et al (2020), European Journal of Pediatrics vol 179, no 12, December 2020, pp
1949-1955

Since February 21, 2020, SARS-CoV-2 has spread exponentially worldwide. Neonatal patients needing intensive care are considered a vulnerable population. To report the results of a policy based on multi-timepoint surveillance for SARS-CoV-2 of all neonates admitted to the neonatal intensive care unit (NICU), their parents, and all healthcare providers in a part of Italy with a high prevalence of the infection. Observational study conducted from 21 February to 21 April 2020. Intervention consisted of (a) parental triage on arrival at the neonatal ward; (b) universal testing with nasopharyngeal swabs and blood testing for SARS-CoV-2 IgM and IgG antibodies; (c) use of continuous personal protective equipment at the NICU by parents and staff. A total of 6726 triage procedures were performed on 114 parents, and 954 nasopharyngeal swabs were collected from 226 individuals. Five (2.2%) asymptomatic individuals (2 parents and 3 healthcare providers) tested positive on nasopharyngeal swabs and were kept isolated for 14 days. Of 75 admitted newborn, no one tested positive on nasopharyngeal swabs or antibody tests. Three parents presented with fever or flu-like symptoms at triage; they tested negative on swabs.

Conclusion: With universal screening of neonates, parents, and staff, there were no cases of SARS-CoV-2 infection among the neonates admitted to a NICU in an area with a high incidence of SARS-CoV-2. Our experience could be usefully compared with other strategies with a view to developing future evidence-based guidelines for managing high-risk neonates in case of new epidemics. (Author)

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Full URL: https://doi.org/10.1007/s00431-020-03765-7

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2021-01663

COVID-19 vaccination guidance. Australian Breastfeeding Association, New Zealand Breastfeeding Alliance, Royal Australian and New Zealand College of Obstetricians and Gynaecologists (2021), Australian Breastfeeding Association for Health Professionals 6

April 2021

Up to date information for breastfeeding mothers about compatability of the COVID-19 vaccine with breastfeeding. The guidance, in the form of an infographic, was launched by the Australian Breastfeeding Association (ABA), the New Zealand Breastfeeding Alliance (NZBA) and the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG). (Author)

Available from: https://www.breastfeeding.asn.au/system/files/RANZCOG-ABA-NZBA%20COVID-19%20vaccination%20and%20breastfeeding%20infographic%20final.pdf

Full URL: https://www.breastfeeding.asn.au/system/files/RANZCOG-ABA-NZBA%20COVID-19%20vaccination%20and%20breastfeeding%20infographic%20final.pdf

2021-01571

The Ripple Effect of a Pandemic on the Parent–Infant Dyad. Reyna BA (2021), Neonatal Network: the Journal of Neonatal Nursing vol 40, no 2, March/April 2021, pp 117-120

During the 2009 H1N1 pandemic, containment strategies aimed at limiting the spread of the virus were implemented but not to the extent as the current COVID-19 pandemic. Research is ongoing regarding disease symptomatology, transmission, and treatment for COVID-19. There are limited data regarding the effects of social distancing practices and restrictive hospital-visitation policies on the parent–infant dyad. The purpose of this commentary is to explore the implications of isolation practices on the parent–infant dyad during a pandemic. (Author)

2021-01434

Newborn antibodies to SARS-CoV-2 detected in cord blood after maternal vaccination – a case report. Paul G, Chad R (2021), BMC Pediatrics vol 21, no 138, 22 March 2021

Background

Maternal vaccination for Influenza and Tetanus, Diphtheria, acellular Pertussis (TDaP) have been well studied in terms of safety and efficacy for protection of the newborn by placental passage of antibodies. Similar newborn protection would be expected after maternal vaccination against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus responsible for coronavirus disease 2019 (COVID-19). There is a significant and urgent need for research regarding safety and efficacy of vaccination against SARS-CoV-2 during pregnancy.

Case presentation

A vigorous, healthy, full-term female was born to a COVID-19 naïve mother who had received a single dose of messenger RNA (mRNA) vaccine for SARS-CoV-2 3 weeks prior to delivery. IgG cord blood antibodies were detected to SARS-CoV-2 at the time of birth.

Conclusion

Here, we report the first known case of an infant with SARS-CoV-2 IgG antibodies detectable in cord blood after maternal vaccination. (Author)

Available from: https://doi.org/10.1186/s12887-021-02618-y

Full URL: https://doi.org/10.1186/s12887-021-02618-y

2021-01362

Infant bronchiolitis dramatically reduced during the second French COVID-19 outbreak. Guedj R, Lorrot M, Lecarpentier T, et al (2021), Acta Paediatrica vol 110, no 4, April 2021, pp 1297-1299

Brief report on rates of infant bronchiolitis during the second wave of the COVID-19 pandemic in France. Results

demonstrate that the bronchiolitis burden dramatically decreased and this may be due to changes in hygiene and social distancing. (LDO)
Available from: https://doi.org/10.1111/apa.15780
Full URL: https://doi.org/10.1111/apa.15780

2021-01361
It's time to change the recommendations on COVID-19 and human milk donations. Picaud J-C, Buffin R, Rigourd V, et al (2021), Acta Paediatrica 2 February 2021, online
Discusses the impact of COVID-19 on breast milk donors and the treatment of donor milk from human milk banks. Presents a three-point action plan and recommendations on the collection of human milk during the pandemic. (LDO)
Available from: https://doi.org/10.1111/apa.15782
Full URL: https://doi.org/10.1111/apa.15782

2021-01360
Should decision-making for active resuscitation consider non-communicable disease risks in periviable infants during the COVID-19 pandemic?. Malamitsi-Puchner A (2021), Acta Paediatrica vol 110, no 4, April 2021, p 1366
Short commentary on the ethical dilemmas of active resuscitation and mechanical ventilation for periviable infants during the COVID-19 pandemic. Concludes that these issues will persist until pregnant women are included in large scale vaccination programmes. (LDO)
Available from: https://doi.org/10.1111/apa.15745
Full URL: https://doi.org/10.1111/apa.15745

2021-01300
A COVID 19 positive preterm mother and infant: a case report. George H, Mutema E (2021), Journal of Obstetrics and Gynaecology 1 March 2021, online
Case report of a pregnant woman at 31 weeks' gestation who presented with shortness of breath and a new cough and subsequently tested positive for SARS-CoV-2. The patient had worsening respiratory distress and a caesarean section was successfully performed on day three. The infant later tested positive for SARS-CoV-2 and was treated for respiratory distress syndrome. (LDO)

2021-01267
Vaccine Update. Public Health England (2021), London: PHE no 316, January 2021
This special edition of Vaccine Update includes information on the safety of COVID-19 vaccination for pregnant and breastfeeding women. Also includes guidance on COVID-19 vaccination for health and social care workers. (LDO)
Available from: https://www.gov.uk/government/publications/vaccine-update-issue-316-january-2021-covid-19-special-edition/vaccine-update-issue-316-january-2021-covid-19-special-edition
Full URL: https://www.gov.uk/government/publications/vaccine-update-issue-316-january-2021-covid-19-special-edition/vaccine-update-issue-316-january-2021-covid-19-special-edition

2021-01263
Vaccine Update. Public Health England (2020), London: PHE no 315, December 2020
This special edition of Vaccine Update includes resources and leaflets on COVID-19 vaccination for pregnant or breastfeeding women. (LDO)
Available from: https://www.gov.uk/government/publications/vaccine-update-issue-315-december-2020-covid-19-special-edition/
vaccine-update-issue-315-december-2020-covid-19-special-edition
Full URL: https://www.gov.uk/government/publications/vaccine-update-issue-315-december-2020-covid-19-special-edition/vaccine-u**pdate-issue-315-december-2020-covid-19-special-edition**

2021-01172

Promoting safety in the home during the pandemic and beyond. Boddy B (2021), Journal of Health Visiting vol 9, no 3, March 2021, pp 106-107

With families home schooling their children, caring for young babies and managing housework during lockdown, it is important for health visitors to promote home safety advice to help prevent unintentional accidents and injuries. (Author)

2021-01139

COVID-19 Precautions Hamper Breastfeeding Support. Kuehn BM (2021), JAMA (Journal of the American Medical Association) vol 325, no 2, 12 January 2021, p 122

News item discussing a recent report (1) from the Centers for Disease Control and Prevention (CDC) which found that nearly one in five hospitals reduced in-person lactation support during the COVID-19 pandemic.

1. Perrine CG et al (2020). Implementation of Hospital Practices Supportive of Breastfeeding in the Context of COVID-19 — United States, July 15–August 20, 2020. Morbidity and Mortality Weekly Report (MMWR), vol 69, no 47, pp 1767-1770. http://dx.doi.org/10.15585/mmwr.mm6947a3. (LDO)

Available from: https://doi.org/10.1001/jama.2020.25241
Full URL: https://doi.org/10.1001/jama.2020.25241

2021-01129

A Survey of Parental Experience Within the Neonatal Unit During the Coronavirus Pandemic. Loftus E, Smith A, Hayes B (2021), Irish Medical Journal vol 114, no 1, January 2021, P253

Letter to the editor presenting the results of a survey to identify parental experiences during the coronavirus pandemic. Findings indicate that 58% felt restrictions affected their ability to bond with their baby and 71% felt restrictions impacted on their partner's ability to bond. (LDO)

Available from: http://imj.ie/a-survey-of-parental-experience-within-the-neonatal-unit-during-the-coronavirus-pandemic/
Full URL: http://imj.ie/a-survey-of-parental-experience-within-the-neonatal-unit-during-the-coronavirus-pandemic/

20210125-62*

Breastfeeding during the novel coronavirus (COVID-19) pandemic: guidelines and challenges. Dimopoulou D, Triantafylidou P, Daskalaki A, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 8 November 2020, online

Available from: https://doi.org/10.1080/14767058.2020.1838481
Full URL: https://doi.org/10.1080/14767058.2020.1838481

COVID-19 pandemic has raised questions on pregnant women and newborns' management. Guidelines, issued by most international agencies and national bodies, recommend rooming-in and direct breastfeeding. In the early days of this pandemic, breastfeeding practices have been challenged by fear among both parents and healthcare workers occasionally resulting in mother-newborn separation. We herein review current breastfeeding guidelines and discuss remaining questions and challenges. As we are facing the second wave of this pandemic, more information is gathered, especially regarding possible virus transmissibility through breastfeeding, enabling more definite instructions about breastfeeding practices. (Author)

20210125-3*

The use of eHealth technologies to support communication with parents in the neonatal unit; an updated literature review for the COVID-19 era. Norris C, Al-Muzaffar I (2020), Journal of Neonatal Nursing 23 December 2020, online

Introduction

Since the outbreak of COVID-19, there has been a drive towards digital healthcare solutions. This review provides an update as to how eHealth technologies have been used in neonatal intensive care unit settings to help communication with parents and parental education since the last reviews published.

Methods

A systematic search of MEDLINE and CINAHL via Ovid was conducted using the keywords 'eHealth', 'mHealth', 'telemedicine', 'neonatal', 'intensive care' and 'NICU'. CASP methodology was used to identify bias and limitations.

Results

Electronic searching yielded 69 and 39 papers respectively. Six papers were considered eligible for full text review. Four studies focussed on eHealth interventions post-discharge from NICU, two of which showed reduced emergency visits to hospital.

Conclusions

eHealth may benefit infants post-discharge from neonatal intensive care units and is generally well-received by parents. However, technological and organisational adaptions may be necessary for its wider application. More research is needed in the use of communication technologies during infants' admission, and to empirically test educational resources. (Author)

20210125-2*

Engaging parents of hospitalized neonates during a pandemic. Duff J, Curnen K, Reed A, et al (2020), Journal of Neonatal Nursing 29 December 2020, online

Background

Engaging families through patient- and family-centered care (PFCC), the NICU nurse upholds the core concepts providing holistic care. The novel coronavirus (COVID-19) pandemic altered the daily routine of visiting parents to hospitals around the nation, particularly for pediatric and neonatal populations.

Methods

This paper describes innovative strategies implemented in a large Level IV NICU to promote the core concepts of PFCC that ensured parent-infant bonding while limiting exposure to a pandemic infection, such as COVID-19.

Discussion

Strategies discussed include virtual visits between parents and infants to promote bonding; virtual parent support groups to encourage information sharing; remote music therapy options which included take-home music kits; diaries, albums, and celebration boards to support participation; among others. Parent collaboration throughout implementation promoted partnership.

Conclusion

Utilizing a variety of unique and innovative approaches to promote PFCC strategies became a critical component of routine planning and care delivery for one large neonatal intensive care unit. (Author)

20210122-35*

Pregnancy and Breastfeeding During the COVID-19 Pandemic: Your Workplace Rights. American College of Nurse-Midwives (2020), Journal of Midwifery and Women's Health vol 65, no 6, November/December 2020, pp 835-836
Available from: https://doi.org/10.1111/jmwh.13199
Full URL: https://doi.org/10.1111/jmwh.13199

Provides an overview of the reasonable adjustments employers should make for pregnant and breastfeeding women during the COVID-19 pandemic. (LDO)

20210122-12*

Clinical characteristics of confirmed COVID-19 in newborns: a systematic review. Karabay M, Çınar N, Suzan ÖK, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 19 November 2020, online

Objective

Aim of this systematic review is to investigate the available evidence describing neonatal outcomes in newborns who have SARS-CoV-2 infection in order to guide prevention of COVID-19 in newborns.

Methods

This is the study protocol for a systematic review. MEDLINE, Web of Science, PubMed, Science Direct, CINAHL, Scopus, Cochrane, TUBİTAK databases, and key words of 'Newborn' (neonatal OR clinical characteristics newborn OR infants less than 1 month OR infants less than 28 weeks OR Neonate) AND 'clinical presentation' (epidemiology OR symptoms OR clinical course OR features) AND 'COVID-19' (Coronavirus OR COVID-19 OR Sars-Cov2 OR coronavirus disease 2019 OR Novel Coronavirus OR 2019-nCoV) were searched for this systematic review. Randomized controlled trial, cross-sectional, case-control, and case reports, case reports examining neonatal outcomes in newborns who have SARS-CoV-2 infection were included. Studies were selected according to criteria around the population, intervention, comparator, outcome(s) of interest, and study design (PICOS framework). All citations and full-text articles were searched by independent five authors. The population that newborns with COVID-19 that confirmed within 28 d of birth are included. The interventions included in COVID-19 infection diagnosed via reverse transcription-polymerase chain reaction (RT-PCR) or serological. The primary outcomes were Neonatal clinical outcomes. The methodological quality of the studies was appraised using appropriate tools. Strength of the body of evidence was assessed according to the quality assessment tool for quantitative studies (QATQS).

Results

The electronic search identified 1051 records that were examined, after evaluating 35 of them were included in the study. Seven studies were research articles and twenty-eight were case reports. Methodological quality was medium. Most of the clinical characteristics of newborns were respiratory difficulty and secondly fever. Some newborns gastrointestinal (GIS) symptoms in the form of diarrhea and feeding intolerance and abdominal distension were present in 50%. The fatality case did not exist in any newborn due to COVID-19. Death occurred in one case due to prematurity.

Conclusıons

The most common symptoms in patients with COVID-19 infection in the neonatal period are respiratory tract symptoms and fever. It has been observed that the COVID-19 infection detected in the neonatal period is not fatal. However, data including more cases are needed. (Author)

20210121-19*

Is respiratory syncytial virus infection more dangerous than COVID 19 in the neonatal period?. Ozdemir SA, Soysal B, Calkavur S, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 22 November 2020, online

Available from: https://doi.org/10.1080/14767058.2020.1849125

Full URL: https://doi.org/10.1080/14767058.2020.1849125

Objective

We aimed to compare the clinical features, laboratory findings and primary outcomes of the neonates with RSV and neonates with SARS-CoV-2 infections.

Materials and methods

This nested case-control study included the neonates who were administered in the neonatal intensive care unit (NICU) of the University of Health Sciences, Dr Behçet Uz Children's Hospital during the period of 01 March-30 April 2020. Respiratory PCR samples and COVID-19 samples were taken simultaneously. Only RSV positive and COVID-19 positive infants were compared. Demographic, epidemiological and clinical data were obtained from hospital electronic information system medical records. The chest radiographs at the admission were evaluated by using standard definitions for normal chest X-ray, atelectasis, bronchopenumonia, peribronchial thickening and hyperinflation in various lung volumes.

Results

A total of 30 infants were enrolled in the study and RSV was identified in 20/30 infants (66%). No significant differences were observed between the two groups in terms of general characteristics. Comparing to the infants with Covid-19 infections, infants with RSV infections had significantly higher rates of having oxygen support (p = .03). Total NICU duration time was 6.7 ± 1.6 days in COVID positive group and 11.1 ± 5.1 days in the RSV group (p = .01). Infants with COVID-19 had more normal chest X-rays. Infants with RSV-positive had a significantly higher proportion of atelectasis than those with COVID-19 infants (p = .04).

Discussion

This is the first study that compares RSV infection and COVID-19 infection. RSV infection can be more serious in the neonatal period. In cases with suspected COVID-19 infection, it should be kept in mind if atelectasis is seen on chest radiography. Respiratory failure may be more serious in RSV positive infants and RSV infection may be more dangerous for the neonatal period. (Author)

20210113-72*

Comparison of Clinical and Epidemiologic Characteristics of Young Febrile Infants with and without Severe Acute Respiratory Syndrome Coronavirus-2 Infection. Leibowitz J, Krief W, Barone S, et al (2021), The Journal of Pediatrics vol 229, February 2021, pp 41-47.e1

Available from: https://doi.org/10.1016/j.jpeds.2020.10.002

Full URL: https://doi.org/10.1016/j.jpeds.2020.10.002

Objective

To determine features that distinguish febrile young infants with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection.

Study design

Retrospective single-center study included febrile infants <57 days of age evaluated in the emergency department of Cohen Children's Medical Center of Northwell Health, New Hyde Park, New York, from March 1 to April 30 of 2018, 2019, and 2020. Sociodemographic and clinical features were compared between those seen during the 2020 coronavirus disease-2019 pandemic and previous years, as well as between infants with SARS-CoV-2 infection and infants without SARS-CoV-2 infection (SARS-CoV-2 negative or evaluated during 2018 and 2019).

Results

In all, 124 febrile infants <57 days of age were identified; 38 during the 2-month study period in 2018, 33 in 2019, and

53 in 2020. During 2020, fewer febrile infants had a serious bacterial infection or a positive respiratory viral panel than in prior years (6% vs 21% [P = .02]; 15% vs 53% [P < .001], respectively). SARS-CoV-2 was the most frequent pathogen detected in 2020; of 30 infants tested, 20 tested positive. Infants with SARS-CoV-2 were more likely to identify as Hispanic (P = .004), have public insurance or be uninsured (P = .01), exhibited lethargy (P = .02), had feeding difficulties (P = .002), and had lower white blood cell (P = .001), neutrophil (P < .001), and lymphocyte counts (P = .005) than the 81 infants without SARS-CoV-2 infection. None of the infants with SARS-CoV-2 had concurrent serious bacterial infection or detection of another virus. Overall, disease in infants with SARS-CoV-2 was mild.
Conclusions
During the peak of the pandemic, SARS-CoV-2 was the predominant pathogen among febrile infants. Socioeconomic, historical, and laboratory features differed significantly between infants infected or not infected with SARS-CoV-2. None of the 20 infants with SARS-CoV-2 infection had an identified coviral or serious bacterial infection. (Author)

20210113-32*
COVID-19: neonatal-perinatal perspectives. Barrero-Castillero A, Beam KS, Bernardini LB, et al (2020), Journal of Perinatology 8 December 2020, online
Available from: https://doi.org/10.1038/s41372-020-00874-x
Full URL: https://doi.org/10.1038/s41372-020-00874-x
The coronavirus disease 2019 (COVID-19) pandemic, resulting from infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has caused severe and widespread illness in adults, including pregnant women, while rarely infecting neonates. An incomplete understanding of disease pathogenesis and viral spread has resulted in evolving guidelines to reduce transmission from infected mothers to neonates. Fortunately, the risk of neonatal infection via perinatal/postnatal transmission is low when recommended precautions are followed. However, the psychosocial implications of these practices and racial/ethnic disparities highlighted by this pandemic must also be addressed when caring for mothers and their newborns. This review provides a comprehensive overview of neonatal-perinatal perspectives of COVID-19, ranging from the basic science of infection and recommendations for care of pregnant women and neonates to important psychosocial, ethical, and racial/ethnic topics emerging as a result of both the pandemic and the response of the healthcare community to the care of infected individuals. (Author)

20210107-5*
Covid-19: Baby's mother issues mottled skin warning. Jones C (2021), BBC News 7 January 2021
Available from: https://www.bbc.co.uk/news/uk-england-essex-55548719
Full URL: https://www.bbc.co.uk/news/uk-england-essex-55548719
Reports that a young mother whose four-month-old baby son has tested positive for COVID-19 has warned other parents of young children to be aware that mottled skin and sickness are symptoms of the disease in the infant population. States that, although the officially recognised symptoms of the disease are fever, a cough, and/or a loss of sense of taste or smell, many researchers have identified diarrhoea, vomiting and abdominal cramps as signs of coronavirus in children. (JSM)

20210106-22*
Considerations for COVID-19 Vaccination in Lactation. Stuebe A (2021), Breastfeeding Medicine vol 16, no 1, January 2021, p 2
Available from: https://doi.org/10.1089/bfm.2020.29172.abm
Full URL: https://doi.org/10.1089/bfm.2020.29172.abm
Statement from the Academy of Breastfeeding Medicine on the safety of the Pfizer/BioNtech and Moderna mRNA

vaccines for breastfeeding women. Recommends that future research studies include pregnant and lactating participants. (LDO)

20210106-21*

President's Corner: Introduction to ABM's Statement on Considerations for COVID-19 Vaccination in Lactation. Stuebe A (2021), Breastfeeding Medicine vol 16, no 1, January 2021, p 1

The recent emergency use authorization of novel mRNA vaccines to prevent COVID-19 is a triumph for science. Less than a year after the SARS-CoV-2 virus was first identified, we have a 95% effective vaccine in production. There is much to celebrate, and there is also a yawning gap: phase 3 trials of these novel mRNA-based vaccines excluded pregnant and lactating women. This void is the product of decisions made >40 years ago to exclude pregnant and lactating women from research, with the goal of avoiding any risk to the fetus or nursing child. In the short term, this strategy avoided liability; in the long term, it has left providers and patients without clinical data to make informed decisions. Without clinical data, the Academy of Breastfeeding Medicine relied on biological plausibility and expert opinion to craft a statement on considerations for mRNA COVID-19 vaccines during lactation. The available information is reassuring; however, pregnant and lactating people deserve better than plausibility to guide medical decisions. Henceforward, phase 3 clinical trials should routinely include pregnant and lactating participants. It is time to protect pregnant and breastfeeding individuals through research, not from research. (Author)

20210106-20*

Social Support During COVID-19: Perspectives of Breastfeeding Mothers. Snyder K, Worlton G (2021), Breastfeeding Medicine vol 16, no 1, January 2021, pp 39-45

Available from: https://doi.org/10.1089/bfm.2020.0200

Full URL: https://doi.org/10.1089/bfm.2020.0200

Introduction: Effective social support can have a critical influence on a mother's ability to initiate and continue breastfeeding. Coronavirus disease (COVID-19) has created unprecedented barriers for breastfeeding mothers to obtain various types of support: emotional, instrumental, informational, and appraisal. However, no research has evaluated the influence the pandemic has had on breastfeeding supports. The purpose of this study was to explore perceptions of social support among breastfeeding mothers during the COVID-19 pandemic.

Materials and Methods: A cross-sectional phenomenological approach was taken utilizing semistructured interviews (March-June 2020) with currently breastfeeding mothers (n = 29). Data were analyzed through a process of immersion and crystallization.

Results: Mothers are still able to obtain each type of support, however, support has been negatively influenced by the pandemic. Mothers reported experiencing increased stress and isolation and had an immense desire to receive in-person support from peers, family, childcare providers, and lactation specialists. Furthermore, mothers of multiple children felt if they did not already have breastfeeding knowledge from previous experiences they would be unsuccessful in breastfeeding due to their current lack of support. Conversely, a majority of mothers felt the pandemic had positively influenced their breastfeeding journeys due to concerns of formula shortages and extended maternity leaves. Finally, mothers were concerned about safely expressing breast milk on their return to work.

Conclusion: Mother's ability to obtain breastfeeding support has been negatively impacted by the pandemic due to the inability to engage with individuals in-person and the lack of access to childcare. First-time mothers may be at higher risk of early breastfeeding cessation due to lack of support. However, breastfeeding journeys have also been positively influenced by allowing mothers more time at home with their child. Resources are needed to support expressing breast milk in the workplace during COVID-19. (Author)

20210106-18*

Best Practices for Human Milk Collection for COVID-19 Research. McGuire MK, Seppo A, Goga A, et al (2021), Breastfeeding Medicine vol 16, no 1, January 2021, pp 29-38
Available from: https://doi.org/10.1089/bfm.2020.0296

In addition to providing life-giving nutrients and other substances to the breastfed infant, human milk can also represent a vehicle of pathogen transfer. As such, when an infectious disease outbreak, epidemic, or pandemic occurs-particularly when it is associated with a novel pathogen-the question will naturally arise as to whether the pathogen can be transmitted through breastfeeding. Until high-quality data are generated to answer this question, abandonment of breastfeeding due to uncertainty can result. The COVID-19 pandemic, which was in full swing at the time this document was written, is an excellent example of this scenario. During these times of uncertainty, it is critical for investigators conducting research to assess the possible transmission of pathogens through milk, whether by transfer through the mammary gland or contamination from respiratory droplets, skin, breast pumps, and milk containers, and/or close contact between mother and infant. To promote the most rigorous science, it is critical to outline optimal methods for milk collection, handling, storage, and analysis in these situations, and investigators should openly share their methods in published materials. Otherwise, the risks of inconsistent test results from preanalytical and analytical variation, false positives, and false negatives are unacceptably high and the ability to provide public health guidance poor. In this study, we provide 'best practices' for collecting human milk samples for COVID-19 research with the intention that this will also be a useful guide for future pandemics. (Author)

20210105-7*

Impact of COVID-19 on childhood vaccination counts to week 51, and vaccine coverage to November 2020 in England: interim analyses. Public Health England (2021), Health Protection Report vol 15, no 1, 5 January 2021; pp 1-23
Available from:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/949448/hpr0121-chldhd-vc_wk51b.pdf
This is the ninth in a series of reports which present an assessment of the extent of COVID-19-related impact on childhood vaccinations, based on both (a) aggregated vaccine counts of dose 1 Hexavalent and dose 1 MMR vaccinations delivered to infants/children and (b) vaccine coverage data for dose 1, 2 and 3 Hexavalent and dose 1 MMR vaccines extracted from ImmForm. This report includes vaccination counts data up to week 51, and vaccine coverage data up to November 2020. (Author, edited)

2021-01043

Moderna begins testing Covid-19 vaccine on babies and young children. Anon (2021), BBC News 16 March 2021
Available from: https://www.bbc.co.uk/news/world-us-canada-56422415
Full URL: https://www.bbc.co.uk/news/world-us-canada-56422415
The US drug company Moderna has begun studying its Covid-19 vaccine in children aged six months to 11 years old. (Author)

2021-01041

Maternal and Infant Outcomes Associated with Maternity Practices Related to COVID-19: The COVID Mothers Study. Bartick MC, Valdés V, Giusti A, et al (2021), Breastfeeding Medicine vol 16, no 3, March 2021, pp 189-199
Background: Maternity care practices such as skin-to-skin care, rooming-in, and direct breastfeeding are recommended, but it is unclear if these practices increase the risk of clinically significant COVID-19 in newborns, and if disruption of these practices adversely affects breastfeeding.

Methods: We performed a retrospective cohort study of 357 mothers and their infants <12 months who had confirmed or suspected COVID-19. Subjects came from an anonymous worldwide online survey between May 4 and September 30, 2020, who were recruited through social media, support groups, and health care providers. Using multivariable logistic regression, Fisher's exact test, and summary statistics, we assessed the association of skin-to-skin care, feeding, and rooming-in with SARS-CoV-2 outcomes, breastfeeding outcomes, and maternal distress.

Results: Responses came from 31 countries. Among SARS-CoV-2+ mothers whose infection was ≤3 days of birth, 7.4% of their infants tested positive. We found a nonsignificant decrease in risk of hospitalization among neonates who roomed-in, directly breastfed, or experienced uninterrupted skin-to-skin care ($p > 0.2$ for each). Infants who did not directly breastfeed, experience skin-to-skin care, or who did not room-in within arms' reach, were significantly less likely to be exclusively breastfed in the first 3 months, adjusting for maternal symptoms ($p \leq 0.02$ for each). Nearly 60% of mothers who experienced separation reported feeling “very distressed,” and 29% who tried to breastfeed were unable. Presence of maternal symptoms predicted infant transmission or symptoms (adjusted odds ratio = 4.50, 95% confidence interval = 1.52–13.26, $p = 0.006$).

Conclusion: Disruption of evidence-based quality standards of maternity care is associated with harm and may be unnecessary. (Author)

2021-00959

Covid-19: Breastfeeding women can have vaccine after guidance turnaround. Rimmer A (2021), BMJ vol 372, 8 January 2021, n64

Available from: https://doi.org/10.1136/bmj.n64

Full URL: https://doi.org/10.1136/bmj.n64

News item reporting that the Medicines and Healthcare Products Regulatory Agency (MRHA) has revised its guidance to allow pregnant and breastfeeding women to have the COVID-19 vaccine. Includes comments from the Royal College of Obstetricians and Gynaecologists. (LDO)

2021-00944

Why were breastfeeding women in the UK denied the covid-19 vaccine?. Hare H, Womersley K (2021), BMJ vol 372, no 8274, 5 January 2021, n4

Available from: https://doi.org/10.1136/bmj.n4

Full URL: https://doi.org/10.1136/bmj.n4

Commentary piece on the revised guidance from the Medicines and Healthcare Products Regulatory Agency (MHRA) allowing pregnant and breastfeeding women to receive the COVID-19 vaccine. Considers the reasons behind the initial blanket ban and compares the approach taken in the United Kingdom with approaches taken in the European Union, United States and Canada. (LDO)

2021-00529

Infant feeding initiation practices in the context of COVID-19 lockdown. Zanardo V, Tortora D, Guerrini P, et al (2021), Early Human Development vol 152, January 2021, 105286

Available from: https://doi.org/10.1016/j.earlhumdev.2020.105286

Full URL: https://doi.org/10.1016/j.earlhumdev.2020.105286

Objective

Limited information is available regarding barriers to breastfeeding during the COVID-19 lockdown.

Study design
This study was designed as a non-concurrent case-control study on breastfeeding initiation practices, defined

according to WHO, in women giving birth during lockdown, between March 8 and May 18, 2020, in the COVID-19 'hotspot' in Northeastern Italy (study group), with an antecedent puerperae-matched group (control group). Exclusive, complementary, and formula feeding practices were collected from maternal charts at hospital discharge, on the second day post-partum, when puerperae filled out the Edinburg Postnatal Depression Scale (EPDS).

Results
The COVID-19 study group presented significantly lower exclusive breastfeeding rates than the control group who members gave birth the previous year (−15%, p = 0.003), as a consequence of the significantly higher prevalence of complementary feeding practices in the former (+20%, p = 0.002). Conversely, the COVID-19 study group showed significantly higher EPDS scores (8.03 ± 4.88 vs. 8.03 ± 4.88, p < 0.005) and higher anhedonia (0.56 ± 0.65 vs. 0.18 ± 0.38, p < 0.001) and depression (0.62 ± 0.60 vs. 0.39 ± 0.44, <0.001) subscale scores. In the general linear model analysis, women practicing exclusive breastfeeding showed significantly lower EPDS scores in comparison with those practicing complementary (p = 0.003) and formula feedings (p = 0.001). Furthermore, the highest EPDS scores were observed in women adopting formula feeding, mainly during the COVID-19 quarantine (p = 0.019).

Conclusion
This study indicates that hospital containment measures adopted during lockdown in the 'hotspot' COVID-19 epidemic area of Northeastern Italy have a detrimental effect on maternal emotions and on breastfeeding exclusivity practices. (Author)

2021-00432

Breastfed 13 month-old infant of a mother with COVID-19 pneumonia: a case report. Yu Y, Li Y, Hu Y, et al (2020), International Breastfeeding Journal vol 15, no 1, 6 August 2020, article no. 68
Available from: https://doi.org/10.1186/s13006-020-00305-9
Full URL: https://doi.org/10.1186/s13006-020-00305-9

Background: In China, mothers with confirmed or suspected COVID-19 pneumonia are recommended to stop breastfeeding. However, the evidence to support this guidance is lacking. There have been relatively few cases reported about direct breastfeeding an infant by a mother with SARS-CoV-2 pneumonia. Therefore, it is necessary to assess the safety of breastfeeding and the possible protective effects of breast milk on infants.
Case presentation: This report analyzes the case of a mother who continued breastfeeding her 13 month-old child when both were diagnosed with confirmed COVID-19 pneumonia. We describe the clinical presentation, diagnosis, treatment, and outcome. The presence of SARS-CoV-2 nucleic acid was determined in maternal serum, breast milk, nasopharyngeal (NP) swabs and feces, and in infant serum, NP swabs and feces. IgM and IgG antibodies against SARS-CoV-2 were assessed in maternal serum and breast milk and in infant serum. SARS-CoV-2 nucleic acid was not detected in the breast milk, and antibodies against SARS-CoV-2 were detected in the mother's serum and milk.
Conclusions: The present case further confirms that the possibility of mother-to-child transmission about SARS-CoV-2 via breast milk alone was very small, and breast milk is safe for direct feeding of infants. (Author)

2021-00431

A Case of COVID-19 in a 45-Day-Old Infant with Persistent Fecal Virus Shedding for More Than 12 Weeks. Cho SM, Ha GY (2020), Yonsei Medical Journal vol 61, no 10, October 2020, pp 901-903
Available from: https://doi.org/10.3349/ymj.2020.61.10.901
Full URL: https://doi.org/10.3349/ymj.2020.61.10.901

In this report, we describe the case of a SARS-CoV-2 infection (COVID-19) in an infant with mild fever and diarrhea in the absence of respiratory distress. A 45-day-old male infant with COVID-19 was transferred to our pediatric department. He had mild fever and diarrhea at admission. Positive-to-negative nasal swab conversion occurred on the

21st day from the onset of symptoms. However, stool swab positivity persisted during the 6-week admission period and for 7 weeks during follow-up at an outpatient clinic after discharge. Negative conversion in a stool specimen occurred on the 142nd day from the onset of symptoms. This case highlights the potential of fecal virus shedding as an important feature of viral transmission in infants and young children. (Author)

2021-00337

Coronavirus (COVID-19) infection in pregnancy: Information for healthcare professionals [Version 13]. Royal College of Obstetricians and Gynaecologists, Royal College of Midwives, Royal College of Paediatrics and Child Health, et al (2021), London: RCOG 19 February 2021. 97 pages

Available from:
https://www.rcog.org.uk/globalassets/documents/guidelines/2021-02-19-coronavirus-covid-19-infection-in-pregnancy-v13.pdf

This document aims to provide guidance to healthcare professionals who care for pregnant women during the COVID-19 pandemic. It is not intended to replace existing clinical guidelines, but to act as a supplement with additional advice on how to implement standard practice during this time. The advice in this document is provided as a resource for UK healthcare professionals based on a combination of available evidence, good practice and expert consensus opinion. The priorities are: (i) The reduction of transmission of SARS-CoV-2 to pregnant women, their family members and healthcare workers. (ii) The provision of safe, personalised and woman-centred care during pregnancy, birth and the early postnatal period, during the COVID-19 pandemic. (iii) The provision of safe, personalised and woman-centred care to pregnant and postnatal women with suspected or confirmed COVID-19. This is very much an evolving situation requiring this guidance to be a living document that is under regular review and updated as new information and evidence emerges. (Author, edited)

2021-00272

Umbilical cord clamping and skin-to-skin contact in deliveries from women positive for SARS-CoV-2: a prospective observational study. Jiménez IM, López RS, Rosas EG, et al (2020), BJOG: An International Journal of Obstetrics and Gynaecology 13 November 2020, online

Available from: https://doi.org/10.1111/1471-0528.16597
Full URL: https://doi.org/10.1111/1471-0528.16597

Objective

To demonstrate that delayed cord clamping (DCC) is safe in mothers with confirmed SARS-CoV-2 infection.

Design, setting and participants

Prospective observational study involving epidemiological information from 403 pregnant women with SARS-CoV-2 between 1 March and 31 May 2020. Data were collected from 70 centres that participate in the Spanish Registry of COVID-19.

Methods

Patients' information was collected from their medical chart.

Main outcomes and measures
The rate of perinatal transmission of SARS-CoV-2 and development of the infection in neonates within 14 days postpartum.

Results
The early cord clamping (ECC) group consisted of 231 infants (57.3%) and the DCC group consisted of 172 infants (42.7%). Five positive newborns (1.7% of total tests performed) were identified with the nasopharyngeal PCR tests performed in the first 12 hours postpartum, two from the ECC group (1.7%) and three from the DCC group (3.6%). No significant differences between groups were found regarding neonatal tests for SARS-CoV-2. No confirmed cases of vertical transmission were detected. The percentage of mothers who made skin-to-skin contact within the first 24 hours after delivery was significantly higher in the DCC group (84.3% versus 45.9%). Breastfeeding in the immediate postpartum period was also significantly higher in the DCC group (77.3% versus 50.2%).

Conclusions
The results of our study show no differences in perinatal outcomes when performing ECC or DCC, and skin-to-skin contact, or breastfeeding.

2021-00114
COVID-19 vaccine development: a pediatric perspective. Kamidani S, Rostad CA, Anderson EJ (2021), Current Opinion in Pediatrics vol 33, no 1, February 2021, pp 144-151
Available from:
https://journals.lww.com/co-pediatrics/Fulltext/2021/02000/COVID_19_vaccine_development__a_pediatric.20.aspx
Purpose of review
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the novel coronavirus that causes coronavirus disease 2019 (COVID-19), has caused substantial morbidity and mortality. Operation Warp Speed aims to accelerate the development of a safe and effective vaccine by early 2021. Multiple vaccine candidates with reassuring safety and efficacy profiles have advanced to phase 3 clinical trials in adults. The purpose of this review is to describe the burden of COVID-19 in children, to update pediatricians about adult COVID-19 vaccine clinical trials, to discuss the importance of COVID-19 vaccine trials in children and to instill confidence in the established vaccine development and licensure processes.

Recent findings
Children of all ages are at risk for SARS-CoV-2 infection and severe disease manifestations. Children are also susceptible to downstream effects of COVID-19, including social isolation and interruption in education. Developing a pediatric COVID-19 vaccine could prevent disease, mitigate downstream effects and enable children to re-engage in their world.

Summary
Children could benefit both directly and indirectly from vaccination. In light of the safety and immunogenicity results from recent adult COVID-19 vaccine clinical trials, children should have the opportunity to be included in clinical trials in parallel to ongoing adult phase 3 clinical trials in a manner that is careful, methodical and transparent. (Author)

2021-00112

Management of neonates after postpartum discharge and all children in the ambulatory setting during the coronavirus disease 2019 (COVID-19) pandemic. Harriel K, Nolt D, Moore S (2020), Current Opinion in Pediatrics vol 32, no 4, August 2020, pp 610-618

Available from:
https://journals.lww.com/co-pediatrics/Fulltext/2020/08000/Management_of_neonates_after_postpartum_discharge.24.aspx

Purpose of review

The present coronavirus disease 2019 (COVID-19) pandemic has created additional challenges with an increased number of presumed healthy, full-term newborns being discharged at 24 h after delivery. Short lengths of stay raise the possibility of mother–infant dyads being less ready for discharge, defined as at least one of the three informants

(i.e., mother, pediatrician, and obstetrician) believing that either the mother and/or infant should stay longer than the proposed time of discharge. This public health crisis has reduced the number of in-person well child visits, negatively impacting vaccine receipt, and anticipatory guidance.

Recent findings

Extra precautions should be taken during the transition period between postpartum discharge and follow-up in the ambulatory setting to ensure the safety of all patients and practice team members. This should include restructuring office flow by visit type and location, limiting in-person visits during well infant exams, instituting proper procedures for personal protective equipment and for cleaning of the office, expanding telehealth capabilities for care and education, and prioritizing universal vaccinations and routine well child screenings.

Summary

Based on current limited evidence, this report provides guidance for the postdischarge management of newborns born to mothers with confirmed or suspected disease in the ambulatory setting as well as prioritizing universal immunizations and routine well child screenings during the COVID-19 pandemic. (Author)

20201221-46

A crisis and an opportunity. Hogg S (2020), International Journal of Birth and Parent Education vol 7, no 4, July 2020, p 41

Column from Sally Hogg discussing the impact of COVID-19 on pregnancy, childbirth, infant development and parental mental health. (LDO)

20201221-20*

Clinical characteristics and outcomes of pregnant women with COVID-19 and the risk of vertical transmission: a systematic review. Chi J, Gong W, Gao Q (2021), Archives of Gynecology and Obstetrics vol 303, no 2, February 2021, pp 337-345

Available from: https://doi.org/10.1007/s00404-020-05889-5
Full URL: https://doi.org/10.1007/s00404-020-05889-5

Purpose

This systematic review summarizes the clinical features and maternal-infant outcomes of 230 pregnant women (154 patients gave birth) infected with COVID-19 and their 156 infants, including the possibility and evidence of vertical transmission.

Methods
An electronic search of PubMed, Embase, Medline, MedRxiv, CNKI, and the Chinese Medical Journal Full Text Database following PRISMA guidelines was performed through April 18, 2020. Search terms included COVID-19, SARS-CoV-2, pregnant women, infants, and vertical transmission.
Results
A total of 230 women with COVID-19 (154 deliveries, 66 ongoing pregnancies, and 10 abortions) and 156 newborns from 20 eligible studies were included in this systematic review. A total of 34.62% of the pregnant patients had obstetric complications, and 59.05% of patients displayed fever. Lymphopenia was observed in 40.71% of patients. A

total of 5.19% of women received mechanical ventilation. Seven women were critically ill. One mother and two newborns died. A total of 24.74% of newborns were premature. Five newborns' throat swab tests of SARS-CoV-2 were positive, all of which were delivered by cesarean section. For eight newborns with negative throat swab tests, three had both elevated IgM and IgG against SARS-CoV-2. Nucleic acid tests of vaginal secretions, breast milk, amniotic fluid, placental blood, and placental tissues were negative.
Conclusion
Most pregnant patients were mildly ill. The mortality of pregnant women with COVID-19 was lower than that of overall COVID-19 patients. Cesarean section was more common than vaginal delivery for pregnant women with COVID-19. Premature delivery was the main adverse event for newborns. The vertical transmission rate calculated by SARS-CoV-2 nucleic acid tests was 3.91%. Serum antibodies against SARS-CoV-2 should be tested more frequently, and multiple samples should be included in pathogenic testing. (Author)

20201221-1*
SOGC Statement on COVID-19 Vaccination in Pregnancy [Reaffirmed 3 March 2021]. Society of Obstetricians and Gynaecologists of Canada (2020), Ottowa, Canada: SOGC 18 December 2020
Available from:
https://www.sogc.org/common/Uploaded%20files/Latest%20News/SOGC_Statement_COVID-19_Vaccination_in_Pregnancy.pdf

Consensus statement from the Society of Obstetricians and Gynaecologists of Canada (SOGC) on COVID-19 vaccination in pregnancy. Recommends that the COVID-19 vaccine should be offered as the documented risk of not getting the vaccine outweighs the theorised risk of being vaccinated during pregnancy or while breastfeeding. (LDO)

20201218-1*
Detection of SARS-CoV-2 in placental but not fetal tissues in the second trimester. Valk JE, Chong AM, Uhlemann A-C, et al (2020), Journal of Perinatology 30 November 2020, online
Available from: https://doi.org/10.1038/s41372-020-00877-8
Full URL: https://doi.org/10.1038/s41372-020-00877-8
Correspondence piece discussing the presence of SARS-CoV-2 in placental and fetal tissues in two infected women who presented with miscarriage and preterm labour in the second trimester. Results show that SARS-CoV-2 was found in the placentas but not the fetal organs. (LDO)

20201217-9*
Trends in intensive neonatal care during the COVID-19 outbreak in Japan. Maeda Y, Nakamura M, Ninomiya H, et al (2020),
Archives of Disease in Childhood: Fetal and Neonatal Edition 24 November 2020, online
Available from: http://dx.doi.org/10.1136/archdischild-2020-320521

Full URL: http://dx.doi.org/10.1136/archdischild-2020-320521

Objective Informed consent is standard in research. International guidelines allow for research without prior consent in emergent situations, such as neonatal resuscitation. Research without prior consent was incorporated in the Vermont Oxford Network Heat Loss Prevention Trial. We evaluated whether significant differences in outcomes exist based on the consent method.
Design Subgroup analysis of infants enrolled in a randomised controlled trial conducted from 2004 to 2010.
Setting A multicentre trial with 38 participating centres.
Participants Infants born 24-27 weeks of gestation. 3048 infants assessed, 2231 excluded due to fetal congenital anomalies, failure to obtain consent or gestation less than 24 weeks. 817 randomised, 4 withdrew consent, total of 813 analysed.
Main outcome measure The difference in mortality between consent groups.
Results No significant differences were found in mortality at 36 weeks (80.2%, 77.4%, p=0.492) or 6 months corrected gestational age (80.7%, 79.7%, p=0.765). Infants enrolled after informed consent were more likely to have mothers who had received antenatal steroids (95.2%, 84.0%, p<0.0001). They also had significantly higher Apgar scores at 1 (5.0, 4.4, p=0.019), 5 (7.3, 6.7, p=0.025) and 10 min (7.5, 6.3, p=0.0003).
Conclusions and relevance Research without prior consent resulted in the inclusion of infants with different baseline characteristics than those enrolled after informed consent. There were no significant differences in mortality. Significantly higher Apgar scores in the informed consent group suggest that some of the sicker infants would have been excluded from enrolment under informed consent. Research without prior consent should be considered in neonatal resuscitation research. (Author)

20201217-55*

COVID-19 vaccination and pregnancy. Royal College of Obstetricians and Gynaecologists (2020), London: RCOG 17 December 2020
Available from: https://www.rcog.org.uk/en/news/covid-19-vaccination-and-pregnancy/
Full URL: https://www.rcog.org.uk/en/news/covid-19-vaccination-and-pregnancy/

Short news item reporting that the Royal College of Obstetricians and Gynaecologists is advising against the use of the new Pfizer-BioNTech COVID-19 vaccine in pregnancy and in breastfeeding women, unitl more information about it is available. (JSM)

20201215-9*

Clinical Characteristics and Disease Severity Among Infants With SARS-CoV-2 Infection in Montreal, Quebec, Canada. Panetta L, Proulx C, Drouin O, et al (2020), JAMA Network Open vol 3, no 12, December 2020, e2030470
Available from: https://doi.org/10.1001/jamanetworkopen.2020.30470
Full URL: https://doi.org/10.1001/jamanetworkopen.2020.30470

Research letter exploring the manifestations and severity of disease among infants with SARS-CoV-2 infection in Canada. Findings show that 25 infants had confirmed positive results and eight of those required hospitalisation. (LDO)

20201211-15*

$20.6 billion to help women, newborns, young children and adolescents. Partnership for Maternal, Newborn and Child Health (PMNCH) (2020), Geneva: PMNCH 10 December 2020
Available from: https://www.who.int/pmnch/media/news/2020/funding-secured-covid19/en/
Full URL: https://www.who.int/pmnch/media/news/2020/funding-secured-covid19/en/

News item reporting that various countries and foundations are making pledges of $20.6 billion to protect services for women, newborns, children and adolescents during the COVID-19 pandemic. (LDO)

20201210-3*

Extremely premature infants, scarcity and the COVID-19 pandemic. Kaempf JW, Dirksen KM, Kockler NJ (2020), Acta Paediatrica 3 November 2020, online

Available from: https://doi.org/10.1111/apa.15651

Full URL: https://doi.org/10.1111/apa.15651

Discusses scarcity and justice in the care of extremely premature infants during the COVID-19 pandemic. Highlights the cost of premature infant care, neurodevelopmental outcomes, allocation of ventilators, informed choice, trial-of-life care and pallative care. (LDO)

20201130-9*

Maternal and perinatal outcomes in pregnant women infected by SARS-CoV-2: A meta-analysis. Bellos I, Pandita A, Panza R (2021), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 256, January 2021, pp 194-204

Available from: https://doi.org/10.1016/j.ejogrb.2020.11.038

Full URL: https://doi.org/10.1016/j.ejogrb.2020.11.038

Evidence concerning coronavirus disease-19 (covid-19) in pregnancy is still scarce and scattered. This meta-analysis aims to evaluate maternal and neonatal outcomes in covid-19 pregnancies and identify factors associated with perinatal viral transmission. Medline, Scopus, CENTRAL, Web of Science and Google Scholar databases were systematically searched to 3 June 2020. Overall, 16 observational studies and 44 case reports/series were included. Fever was the most frequent maternal symptom, followed by cough and shortness of breath, while about 15 % of infected were asymptomatic. Severe disease was estimated to occur in 11 % of women in case reports/series and in 7 % (95 % CI: 4 %-10 %) in observational studies. Two maternal deaths were reported. The rate of neonatal transmission did not differ between women with and without severe disease (OR: 1.94, 95 % CI: 0.50-7.60). Preterm birth occurred in 29.7 % and 16 % (95 % CI: 11 %-21 %) in data obtained from case series and observational studies, respectively. Stillbirth occurred in 3 cases and 2 neonatal deaths were observed. Vertical transmission was suspected in 4 cases. Fever was the most common neonatal symptom (40 %), followed by shortness of breath (28 %) and vomiting (24 %), while 20 % of neonates were totally asymptomatic. In conclusion, the maternal and neonatal clinical course the infection is typically mild, presenting low mortality rates. The risk of vertical transmission is suggested to be low and may not be affected by the severity of maternal disease. Further large-scale studies are needed to clarify the risk factors associated with viral transmission and severe infection in the neonatal population. (Author)

20201127-1*

Maternal and child healthcare in India during COVID-19 pandemic. Paul P, Mondal D (2021), Midwifery vol 92, January 2021, 102865

Available from: https://doi.org/10.1016/j.midw.2020.102865

Full URL: https://doi.org/10.1016/j.midw.2020.102865

Editorial discussing maternal and child healthcare in India during the COVID-19 pandemic. Highlights the high rates of maternal and infant mortality prior to the pandemic and outlines strategies to minimise further adverse outcomes. (LDO)

20201123-24*

How a portable negative pressure incubator for COVID-19 was created with minor modifications. Kumar A, Kumar N, et al (2020), Acta Paediatrica vol 109, no 11, November 2020, pp 2423-2424

Available from: https://doi.org/10.1111/apa.15521

Full URL: https://doi.org/10.1111/apa.15521

Discusses the creation of a portable negative pressure incubator for neonatal patients with COVID-19. The incubator allows for oxygen therapy and aerosol generating procedures while preventing aerosol dispersion. (LDO)

20201118-9

Newly qualified health visitor: Working with families to support breastfeeding. Boddy B (2020), Journal of Health Visiting vol 8, no 11, November 2020, pp 452-453

Bethany Boddy explores the barriers to breastfeeding in the UK and how practitioners can promote breastfeeding within health visitor practice. (Author)

20201116-94*

Clinical care of pregnant and postpartum women with COVID-19: Living recommendations from the National COVID-19 Clinical Evidence Taskforce. Vogel JP, Tendal B, Giles M, et al (2020), Australian and New Zealand Journal of Obstetrics and Gynaecology vol 60, no 6, December 2020, pp 840-851

Available from: https://doi.org/10.1111/ajo.13270

Full URL: https://doi.org/10.1111/ajo.13270

To date, 18 living recommendations for the clinical care of pregnant and postpartum women with COVID-19 have been issued by the National COVID-19 Clinical Evidence Taskforce. This includes recommendations on mode of birth, delayed umbilical cord clamping, skin-to-skin contact, breastfeeding, rooming-in, antenatal corticosteroids, angiotensin-converting enzyme inhibitors, disease-modifying treatments (including dexamethasone, remdesivir and hydroxychloroquine), venous thromboembolism prophylaxis and advanced respiratory support interventions (prone positioning and extracorporeal membrane oxygenation). Through continuous evidence surveillance, these living recommendations are updated in near real-time to ensure clinicians in Australia have reliable, evidence-based guidelines for clinical decision-making. Please visit https://covid19evidence.net.au/ for the latest recommendation updates. (Author)

20201116-46*

Management of the mother-infant dyad with suspected or confirmed SARS-CoV-2 infection in a highly epidemic context. Pietrasanta C, Pugni L, Ronchi A, et al (2020), Journal of Neonatal-Perinatal Medicine vol 13, no 3, 2020

In the context of SARS-CoV-2 pandemic, the hospital management of mother-infant pairs poses to obstetricians and neonatologists previously unmet challenges. In Lombardy, Northern Italy, 59 maternity wards networked to organise the medical assistance of mothers and neonates with suspected or confirmed SARS-CoV-2 infection. Six 'COVID-19 maternity centres' were identified, the architecture and activity of obstetric and neonatal wards of each centre was reorganised, and common assistance protocols for the management of suspected and proven cases were formulated. Here, we present the key features of this reorganization effort, and our current management of the mother-infant dyad before and after birth, including our approach to rooming-in practice, breastfeeding and neonatal follow-up, based on the currently available scientific evidence. Considered the rapid diffusion of COVID-19 all over the world, we believe that preparedness is fundamental to assist mother-infant dyads, minimising the risk of propagation of the infection through maternity and neonatal wards. (Author)

20201116-39*

The changing landscape of SARS-CoV-2: Implications for the maternal-infant dyad. Elgin TG, Fricke EM, Hernandez Reyes ME, et al (2020), Journal of Neonatal-Perinatal Medicine vol 13, no 3, 2020

The COVID-19 pandemic represents the greatest challenge to date faced by the medical community in the 21st century. The rate of rapid dissemination, magnitude of viral contagiousness, person to person transmission at an asymptomatic phase of illness pose a unique and dangerous challenge for all patients, including neonatal and

obstetric patients. Although scientific understanding of the pathophysiology of the disease, nature of transmission, and efficacy of mitigation strategies is growing, neither a cure or vaccine have been developed. While COVID-19 is primarily a disease of older patients, infection is now seen across all age demographics with reports of illness in pregnant patients and infants. Altered hormone status and predominance of Th-2 immune helper cells may result in increased predisposition to SARS-CoV-2. Case reports of pregnant patients demonstrate a clinical presentation comparable to non-pregnant adults, but evidence of vertical transmission to the fetus is controversial. Neonatal reports demonstrate an inconsistent and non-specific phenotype, and it is often difficult to separate COVID-19 from the underlying conditions of prematurity or bacterial infection. The development of international registries to enable risk profiling of COVID-19 positive pregnant mothers and/or their offspring may facilitate the development of enhanced mitigation strategies, medical treatments and effective vaccinations. (Author)

20201116-2*

Multi-centre study showed reduced compliance with the World Health Organization recommendations on exclusive breastfeeding during COVID-19. del Río R, Dip Pérez E, Marín Gabriel MÁ, et al (2021), Acta Paediatrica vol 110, no 3, March 2021, pp 935-936

Available from: https://doi.org/10.1111/apa.15642

Full URL: https://doi.org/10.1111/apa.15642

Brief report exploring the impact of COVID-19 measures on the incidence of exclusive breastfeeding at the time of hospital discharge among a Spanish cohort. Results indicate that 43.5% of infants did not receive immediate skin-to-skin contact after birth and 45.9% were separated from their mothers. There was a strong negative correlation between separation after birth and exclusive breastfeeding. (LDO)

20201112-28*

Longitudinal Survey of COVID-19 Burden and Related Policies in U.S. Neonatal Intensive Care Units. Ahmad KA, Darcy-Mahoney A, Kelleher AS, et al (2021), American Journal of Perinatology vol 38, no 1, January 2021, pp 93-98

Available from: https://doi.org/10.1055/s-0040-1718944

Full URL: https://doi.org/10.1055/s-0040-1718944

Objective This study aimed to determine the prevalence of confirmed novel coronavirus disease 2019 (COVID-19) disease or infants under investigation among a cohort of U.S. neonatal intensive care units (NICUs). Secondarily, to evaluate hospital policies regarding maternal COVID-19 screening and related to those infants born to mothers under investigation or confirmed to have COVID-19.

Study Design Serial cross-sectional surveys of MEDNAX-affiliated NICUs from March 26 to April 3, April 8 to April 19, May 4 to May 22, and July 13 to August 2, 2020. The surveys included questions regarding COVID-19 patient burden and policies regarding infant separation, feeding practices, and universal maternal screening.

Results Among 386 MEDNAX-affiliated NICUs, responses were received from 153 (42%), 160 (44%), 165 (45%), 148 (38%) across four rounds representing an active patient census of 3,465, 3,486, 3,452, and 3,442 NICU admitted patients on the day of survey completion. Confirmed COVID-19 disease in NICU admitted infants was rare, with the prevalence rising from 0.03 (1 patient) to 0.44% (15 patients) across the four survey rounds, while the prevalence of patients under investigation increased from 0.8 to 2.6%. Hospitals isolating infants from COVID-19-positive mothers fell from 46 to 20% between the second and fourth surveys, while centers permitting direct maternal breastfeeding increased 17 to 47% over the same period. Centers reporting universal severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) screening for all expectant mothers increased from 52 to 69%.

Conclusion Among a large cohort of NICU infants, the prevalence of infants under investigation or with confirmed neonatal COVID-19 disease was low. Policies regarding universal maternal screening for SARS-CoV-2, infant isolation

from positive mothers, and direct maternal breastfeeding for infants born to positive mothers are rapidly evolving. As universal maternal screening for SARS-CoV-2 becomes more common, the impact of these policies requires further investigation. (Author)

20201111-4*

Characteristics and outcomes of neonatal SARS-CoV-2 infection in the UK: a prospective national cohort study using active surveillance. Gale C, Quigley MA, Placzek A, et al (2020), The Lancet Child & Adolescent Health 9 November 2020, online

Available from: https://doi.org/10.1016/S2352-4642(20)30342-4
Full URL: https://doi.org/10.1016/S2352-4642(20)30342-4

Background

Babies differ from older children with regard to their exposure to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). However, data describing the effect of SARS-CoV-2 in this group are scarce, and guidance is variable. We aimed to describe the incidence, characteristics, transmission, and outcomes of SARS-CoV-2 infection in neonates who received inpatient hospital care in the UK.

Methods

We carried out a prospective UK population-based cohort study of babies with confirmed SARS-CoV-2 infection in the first 28 days of life who received inpatient care between March 1 and April 30, 2020. Infected babies were identified through active national surveillance via the British Paediatric Surveillance Unit, with linkage to national testing, paediatric intensive care audit, and obstetric surveillance data. Outcomes included incidence (per 10 000 livebirths) of confirmed SARS-CoV-2 infection and severe disease, proportions of babies with suspected vertically and nosocomially acquired infection, and clinical outcomes.

Findings

We identified 66 babies with confirmed SARS-CoV-2 infection (incidence 5·6 [95% CI 4·3-7·1] per 10 000 livebirths), of whom 28 (42%) had severe neonatal SARS-CoV-2 infection (incidence 2·4 [1·6-3·4] per 10 000 livebirths). 16 (24%) of these babies were born preterm. 36 (55%) babies were from white ethnic groups (SARS-CoV-2 infection incidence 4·6 [3·2-6·4] per 10 000 livebirths), 14 (21%) were from Asian ethnic groups (15·2 [8·3-25·5] per 10 000 livebirths), eight (12%) were from Black ethnic groups (18·0 [7·8-35·5] per 10 000 livebirths), and seven (11%) were from mixed or other ethnic groups (5·6 [2·2-11·5] per 10 000 livebirths). 17 (26%) babies with confirmed infection were born to mothers with known perinatal SARS-CoV-2 infection, two (3%) were considered to have possible vertically acquired infection (SARS-CoV-2-positive sample within 12 h of birth where the mother was also positive). Eight (12%) babies had suspected nosocomially acquired infection. As of July 28, 2020, 58 (88%) babies had been discharged home, seven (11%) were still admitted, and one (2%) had died of a cause unrelated to SARS-CoV-2 infection.

Interpretation

Neonatal SARS-CoV-2 infection is uncommon in babies admitted to hospital. Infection with neonatal admission following birth to a mother with perinatal SARS-CoV-2 infection was unlikely, and possible vertical transmission rare, supporting international guidance to avoid separation of mother and baby. The high proportion of babies from Black, Asian, or minority ethnic groups requires investigation.

Funding

UK National Institute for Health Research Policy Research Programme. (Author)

20201111-3*

Parents urged to keep childhood vaccination appointments during national COVID-19 restrictions. Public Health England (2020), London: PHE 10 November 2020

Available from:
https://www.gov.uk/government/news/parents-urged-to-keep-childhood-vaccination-appointments-during-nationa

l-covid-19-restrictions

Public Health England (PHE) is reminding parents that the national COVID-19 restrictions should not stop children from receiving life-saving vaccines. (Author)

20201111-2*

Impact of COVID-19 on childhood vaccination counts to week 43, and vaccine coverage to September 2020 in England: interim analyses. Public Health England (2020), Health Protection Report vol 14, no 21, 10 November 2020, pp 1-17

Available from:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/933545/hpr2120_chldhd-vc_wk43.pdf

These reports review aggregated childhood vaccination counts (updated weekly from the electronic records of one supplier of IT services to general practices in England) as a means of assessing the impact of physical distancing measures on vaccination delivery. These data are not for the whole of England, nor do they reflect regional or local variations. This fifth report includes vaccination counts data up to week 43 and vaccine coverage data to September 2020. (Author, edited)

20201030-16*

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Antibodies at Delivery in Women, Partners, and Newborns. Egerup P, Fich Olsen L, Christiansen A-MH, et al (2021), Obstetrics & Gynecology vol 137, no 1, January 2021, pp 49-55

Available from: https://doi.org/10.1097/AOG.0000000000004199
Full URL: https://doi.org/10.1097/AOG.0000000000004199

OBJECTIVE:
To investigate the frequency of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) antibodies in parturient women, their partners, and their newborns and the association of such antibodies with obstetric and neonatal outcomes.
METHODS:
From April 4 to July 3, 2020, in a single university hospital in Denmark, all parturient women and their partners were invited to participate in the study, along with their newborns. Participating women and partners had a pharyngeal swab and a blood sample taken at admission; immediately after delivery, a blood sample was drawn from the umbilical cord. The swabs were analyzed for SARS-CoV-2 RNA by polymerase chain reaction, and the blood samples were analyzed for SARS-CoV-2 antibodies. Full medical history and obstetric and neonatal information were available.
RESULTS:
A total of 1,313 parturient women (72.5.% of all women admitted for delivery at the hospital in the study period), 1,188 partners, and 1,206 newborns participated in the study. The adjusted serologic prevalence was 2.6% in women and 3.5% in partners. Seventeen newborns had SARS-CoV-2 immunoglobulin G (IgG) antibodies, and none had immunoglobulin M antibodies. No associations between SARS-CoV-2 antibodies and obstetric or neonatal complications were found (eg, preterm birth, preeclampsia, cesarean delivery, Apgar score, low birth weight, umbilical arterial pH, need for continuous positive airway pressure, or neonatal admission), but statistical power to detect such differences was low. Full serologic data from 1,051 families showed an absolute risk of maternal infection of 39% if the partner had antibodies.
CONCLUSION:
We found no association between SARS-CoV-2 infection and obstetric or neonatal complications. Sixty-seven percent of newborns delivered by mothers with antibodies had SARS-CoV-2 IgG antibodies. A limitation of our study is that we

lacked statistical power to detect small but potentially meaningful differences between those with and without evidence of infection. (Author)

20201030-10*

The implications of face masks for babies and families during the COVID-19 pandemic: A discussion paper. Green J, Petty J, Staff L, et al (2021), Journal of Neonatal Nursing vol 27, no 1, February 2021, pp 21-25
Available from: https://doi.org/10.1016/j.jnn.2020.10.005
Full URL: https://doi.org/10.1016/j.jnn.2020.10.005

COVID-19 has changed the way that newborn babies are cared for within the neonatal setting due to the introduction of social distancing and wearing of face masks to limit the spread of the infection. Potential implications exist related to the normal development of bonding and connections with others. This paper discusses the importance of face to face interactions for early attachment between babies and parents within the context of relevant underpinning developmental theory. Mask wearing can also potentially impact relational communication, requiring us to change our current ways of working. Decreasing face to face interactions and relational communication, along with key recommendations for both parents and health professionals are further highlighted to mitigate the potential negative effects of masks on long-term development related to human connection and attachment. (Author)

20201028-56*

Impact of physical distancing measures due to COVID-19 pandemic in England on childhood vaccination counts up to week 41, and vaccine coverage up to August 2020. Public Health England (2020), Health Protection Report vol 14, no 20, 27 October 2020, pp 1-13
Available from:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/929754/hpr2020_chldhd-vc_wk41.pdf

These reports review aggregated childhood vaccination counts (updated weekly from the electronic records of one supplier of IT services to general practices in England) as a means of assessing the impact of physical distancing measures on vaccination delivery. These data are not for the whole of England, nor do they reflect regional or local variations. This fourth report includes vaccination counts data up to week 41 and vaccine coverage data to August 2020. (Author, edited)

20201028-29*

Coronavirus (COVID-19) infection in pregnancy: Information for healthcare professionals [Version 12]. Royal College of Obstetricians and Gynaecologists, Royal College of Midwives, Royal College of Paediatrics and Child Health, et al (2020), London: RCOG 14 October 2020. 77 pages
Available from:
https://www.rcm.org.uk/media/4383/2020-10-14-coronavirus-covid-19-infection-in-pregnancy-v12.pdf
Full URL: https://www.rcm.org.uk/media/4383/2020-10-14-coronavirus-covid-19-infection-in-pregnancy-v12.pdf

This document aims to provide guidance to healthcare professionals who care for pregnant women during the COVID-19 pandemic. It is not intended to replace existing clinical guidelines, but to act as a supplement with additional advice on how to implement standard practice during this time. The advice in this document is provided as a resource for UK healthcare professionals based on a combination of available evidence, good practice and expert consensus opinion. The priorities are: (i) The reduction of transmission of SARS-CoV-2 to pregnant women. (ii) The provision of safe, personalised and woman-centred care during pregnancy, birth and the early postnatal period, during the COVID-19 pandemic. (iii) The provision of safe, personalised and woman-centred care to pregnant and postnatal women with suspected/confirmed COVID-19. This is very much an evolving situation requiring this guidance to be a living document that is under regular review and updated as new information and evidence emerges. (Author, edited)

20201026-10*

Kawasaki disease or Kawasaki-like disease: Influence of SARS-CoV-2 infections in Japan. Iio K, Uda K, Hataya H, et al (2021), Acta Paediatrica vol 110, no 2, February 2021, pp 600-601
Available from: https://doi.org/10.1111/apa.15535
Full URL: https://doi.org/10.1111/apa.15535

Brief report discussing the relationship between Kawasaki disease (KD) and SARS-CoV-2 infections at Tokyo Metropolitan Children's Medical Center in Japan. Findings indicate that most patients during the COVID-19 pandemic had classical KD rather than paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2 infection (PIMS-TS). (LDO)

20201023-21

A structured approach to facilitate the reintroduction of parents in transport during the SARS-CoV-2 pandemic. Rattigan S, Perry R, Job S (2020), Infant vol 16, no 5, September 2020, pp 186-188

In response to the COVID-19 pandemic, transport teams ceased taking parents with them on neonatal transfers except in exceptional circumstances. With the easing of lockdown, the Acute Neonatal Transfer Service of the East of England (ANTS) recognises how important it is for parents to be involved in their baby's journey and has developed a set of recommendations to mitigate the risk of horizontal transmission of SARS-CoV-2 in transport. (Author)

20201023-20

Changing referral patterns, reduced feeding-related problems and changes in breastfeeding during COVID-19. Bean AE, Skene C, Peirce E, et al (2020), Infant vol 16, no 5, September 2020, pp 190-192

Due to the current global pandemic, the maternity services at Jessop Wing, Sheffield Teaching Hospitals NHS Foundation Trust, have had to place restrictions on visitors to the hospital environment. During this time, we have seen a significant decrease in the number of term babies referred with common feeding-related problems, while also noting an increase in breastfeeding rates at discharge. We explore the possible reasons for this and what lessons may be learned. (Author)

20201023-17

COVID-19 surveillance swabbing in a tertiary NICU. Tanney K, Eaton K, Hesketh L, et al (2020), Infant vol 16, no 5, September 2020, p 178

Like other neonatal units around the world, COVID-19 raised many questions for us about personal protective equipment, parental presence, and how best to cohort babies in the neonatal intensive care unit (NICU). There is limited guidance on the use of routine swabbing to guide practice in neonatal care. However, as we were caring for a group of very vulnerable patients, it was felt that regular surveillance would provide the assurance to staff and parents that the unit remained safe and COVID-19 free. With the support of the Clinical Virology and Infection Prevention Control teams, we instituted twice weekly surveillance swabbing for those babies who were deemed high-risk, ie all of our babies who were undergoing aerosol-generating procedures. (Author)

20201021-6*

Ready, Set, BABY Live Virtual Prenatal Breastfeeding Education for COVID-19. Palmquist AEL, Parry KC, Wouk K, et al (2020), Journal of Human Lactation vol 36, no 4, November 2020, pp 614-618
Available from: https://doi.org/10.1177/0890334420959292
Full URL: https://doi.org/10.1177/0890334420959292

Discusses the adaptation of the 'Ready, Set, BABY' antenatal breastfeeding education programme during the COVID-19

pandemic. The new digital programme 'Ready, Set, BABY Live' was launched on 15 April 2020 and is available in English and Spanish. (LDO)

20201021-5*

Telelactation: A Necessary Skill With Puppet Adjuncts During the COVID-19 Pandemic. Dhillon S, Dhillon PS (2020), Journal of Human Lactation vol 36, no 4, November 2020, pp 619-621
Available from: https://doi.org/10.1177/0890334420958623
Full URL: https://doi.org/10.1177/0890334420958623

Sarah Dhillon shares her experience of providing telelactation services using knitted breasts and hand puppets during the COVID-19 outbreak. (LDO)

20201021-4*

Universal Screening for SARS-CoV-2 of all Human Milk Bank Samples. Salvatori G, Umberto De Rose D, Amadio P, et al (2020), Journal of Human Lactation 22 September 2020, online
Available from: https://doi.org/10.1177/0890334420962074
Full URL: https://doi.org/10.1177/0890334420962074

Correspondence piece discussing the universal screening of human milk samples and containers for SARS-CoV-2 at a milk bank at Bambino Gesù Children's Hospital in Rome, Italy. Approximately 304 L of human milk was collected and none of the samples or container swabs tested positive for SARS-CoV-2. (LDO)

20201021-31*

New-Onset Type 1 Diabetes in Children During COVID-19: Multicenter Regional Findings in the U.K. Unsworth R, Wallace S, Oliver NS, et al (2020), Diabetes Care vol 43, no 11, November 2020, pp e170-e171
Available from: https://doi.org/10.2337/dc20-1551
Full URL: https://doi.org/10.2337/dc20-1551

Correspondence reporting the main findings of a multicenter study looking at the incidence of new-onset type 1 diabetes and diabetic ketoacidosis (DKA) in 30 children from 23 months up to the age of 16 years, during the peak of the COVID-19 pandemic, using data gathered from five inpatient units in North West London. (JSM)

20201021-3*

Operation of the First Regional Milk Bank in Poland During a SARS-CoV-2 (COVID-19) Pandemic. Sinkiewicz-Darol E, Bernatowicz-Łojko U (2020), Journal of Human Lactation vol 36, no 4, November 2020, pp 626-627
Available from: https://doi.org/10.1177/0890334420957971
Full URL: https://doi.org/10.1177/0890334420957971

The authors share their experience of operating a human milk bank in Poland during the COVID-19 pandemic. The milk bank has maintained sufficient resources, but there has been an increase in anxiety from donors and the profile of lactation consultants has changed significantly. (LDO)

20201020-31*

Early Identification of IgA Anti-SARSCoV-2 in Milk of Mother With COVID-19 Infection. Lebrão CW, Navarro Cruz M, Henrique da Silva M, et al (2020), Journal of Human Lactation vol 36, no 4, November 2020, pp 609-613

Introduction

Human milk cannot currently be considered a major source of COVID-19 infection. On the other hand, it can contain specific antibodies that could modulate a possible newborn infection by SARS-CoV-2.

Main issue

A 32-year-old pregnant woman, gestational age 37 and 3/7 weeks, was admitted with a flu-like syndrome caused by

COVID-19. The female newborn was appropriate for gestational age, with a birth weight of 2,890 g, length 48 cm, and head circumference 34 cm.
Management
The mother-infant dyad remained in the rooming-in unit during hospitalization, exclusively breastfeeding and following World Health Organization recommendations for contact and airway precautions. On the 3rd day after delivery, two mother's milk samples (3 and 5 mL) were collected by hand expression. The samples were centrifuged for 10 min twice consecutively to separate fat, which was removed, and the remaining material was transferred to another tube to determine anti-SARS-CoV-2 Immunoglobulin A and Immunoglobulin G (ELISA, Kit EUROIMMUN AG, Luebeck, Germany). Anti-SARS-CoV-2 Immunoglobulin A was detected in the two samples evaluated, whose values were 2.5 and 1.9, respectively. No anti-SARSCoV-2 immunoglobulin G was detected. The exclusively-breastfed infant remained well through 45 days of age.
Conclusion
The presence of SARS-CoV-2 Immunoglobulin A in the milk of mothers infected with COVID-19 may be related to protection against the transmission and severity of the disease in their infants. (Author)

20201019-6*

Infants Born to Mothers with COVID-19 During Pregnancy: The First Four Months of the Pandemic. Murphy C, O'Reilly D, McCallion N, et al (2020), Irish Medical Journal vol 113, no 9, October 2020, P193
Available from:
http://imj.ie/infants-born-to-mothers-with-covid-19-during-pregnancy-the-first-four-months-of-the-pandemic/
Full URL:
http://imj.ie/infants-born-to-mothers-with-covid-19-during-pregnancy-the-first-four-months-of-the-pandemic/
Correspondence piece exploring the outcomes of infants born to women with SARS-CoV-2 detected during pregnancy at the Rotunda Hospital, Ireland. Results show that there was a high rate of prematurity but none of the infants developed suspected or confirmed COVID-19. (LDO)

20201019-11*

Evaluation for SARS-CoV-2 in Breast Milk From 18 Infected Women. Chambers C, Krogstad P, Bertrand K, et al (2020), JAMA (Journal of the American Medical Association) vol 324, no 13, 6 October 2020, pp 1347-1348
Available from: https://doi.org/10.1001/jama.2020.15580
Full URL: https://doi.org/10.1001/jama.2020.15580
Research letter exploring the presence of SARS-CoV-2 RNA in breast milk from 18 women in the United States. Findings revealed SARS-CoV-2 RNA in one breast milk sample, but viral RNA was not detected in samples taken 12 and 41 days later. (LDO)

20201016-31*

Coronavirus infection in neonates: a systematic review. Trevisanuto D, Cavallin F, Cavicchiolo ME, et al (2020), Archives of Disease in Childhood: Fetal and Neonatal Edition 17 September 2020, online
Available from: http://dx.doi.org/10.1136/archdischild-2020-319837
Full URL: http://dx.doi.org/10.1136/archdischild-2020-319837

Objective To summarise currently reported neonatal cases of SARS-CoV-2 infection.
Methods A search strategy was designed to retrieve all articles published from 1 December 2019 to 12 May 2020, by combining the terms 'coronavirus' OR 'covid' OR 'SARS-CoV-2') AND ('neonat*' OR 'newborn') in the following electronic databases: MEDLINE/Pubmed, Scopus, Web of Science, MedRxiv, the Cochrane Database of Systematic

Review and the WHO COVID-19 database, with no language restrictions. Quality of studies was evaluated by using a specific tool for assessment of case reports and/or case series.
Results Twenty-six observational studies (18 case reports and 8 case series) with 44 newborns with confirmed SARS-CoV-2 infection were included in the final analysis. Studies were mainly from China and Italy. Half of neonates had a documented contact with the infected mother and one out of three infected neonates was admitted from home. Median age at diagnosis was 5 days. One out of four neonates was asymptomatic, and the remaining showed mild symptoms typical of acute respiratory infections and/or gastrointestinal symptoms. The majority of neonates were left in spontaneous breathing (room air) and had good prognosis after a median duration of hospitalisation of 10 days.
Conclusions Most neonates with SARS-CoV-2 infection were asymptomatic or presented mild symptoms, generally were left in spontaneous breathing and had a good prognosis after median 10 days of hospitalisation. Large epidemiological and clinical cohort studies, as well as the implementation of collaborative networks, are needed to improve the understanding of the impact of SARS-CoV-2 infection in neonates.

20201016-19*
Protecting newborn infants during the COVID-19 pandemic should be based on evidence and equity. Sacks E, Sripad P, Ndwiga C, et al (2020), Acta Paediatrica vol 109, no 12, December 2020, pp 2448-1450
Available from: https://doi.org/10.1111/apa.15568
Full URL: https://doi.org/10.1111/apa.15568
Commentary on recommendations presented in interim guidance published in April 2020 by the American Academy of Pediatrics, which the authors claim are neither evidence-based nor equitable. (MB)

20201014-5*
Beyond the First Wave: Consequences of COVID-19 on High-Risk Infants and Families. Lemmon ME, Chapman I, Malcolm W, et al (2020), American Journal of Perinatology vol 37, no 12, October 2020, pp 1283-1288
Available from: https://doi.org/10.1055/s-0040-1715839
Full URL: https://doi.org/10.1055/s-0040-1715839
The novel coronavirus disease 2019 (COVID-19) pandemic is affecting care for high-risk newborns in ways that will likely be sustained beyond the initial pandemic response. These novel challenges present an urgent imperative to understand how COVID-19 impacts parent, family, and infant outcomes. We highlight three areas that warrant targeted attention: (1) inpatient care: visitation policies, developmental care, and communication practices; (2) outpatient care: high-risk infant follow-up and early intervention programs; and (3) parent psychosocial distress: mental health, social support, and financial toxicity. Changes to care delivery in these areas provide an opportunity to identify and implement novel strategies to provide family-centered care during COVID-19 and beyond. (Author)

20201014-4*
Impact of physical distancing measures due to COVID-19 pandemic in England on childhood vaccination counts up to week 39, 2020 and vaccine coverage up to August 2020. Public Health England (2020), Health Protection Report vol 14, no 18, 14 October 2020, pp 1-12
Available from:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/926375/hpr1820_chldhd-VC_wk39b.pdf

These reports review aggregated childhood vaccination counts (updated weekly from the electronic records of one supplier of IT services to general practices in England) as a means of assessing the impact of physical distancing measures on vaccination delivery. These data are not for the whole of England, nor do they reflect regional or local variations. This report includes data up to week 39 of 2020. (Author, edited)

20201007-11*

Supporting breastfeeding. Pieper-Callan B (2020), World of Irish Nursing & Midwifery vol 28, no 7, September 2020, p 49

Available from: https://online.flippingbook.com/view/166730/48/

Full URL: https://online.flippingbook.com/view/166730/48/

Brenda Pieper-Callan discusses the effect that Covid-19 has had on the ability to provide breastfeeding support to new mothers. (Author)

20201006-24*

Routine childhood immunisation during the COVID-19 pandemic in Africa: a benefit-risk analysis of health benefits versus excess risk of SARS-CoV-2 infection. Abbas K, Procter SR, van Zandvoort K, et al (2020), The Lancet Global Health vol 8, no 10, October 2020, pp E1264-E1272

Available from: https://doi.org/10.1016/S2214-109X(20)30308-9

Full URL: https://doi.org/10.1016/S2214-109X(20)30308-9

Background

National immunisation programmes globally are at risk of suspension due to the severe health system constraints and physical distancing measures in place to mitigate the ongoing COVID-19 pandemic. We aimed to compare the health benefits of sustaining routine childhood immunisation in Africa with the risk of acquiring severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection through visiting routine vaccination service delivery points.

Methods

We considered a high-impact scenario and a low-impact scenario to approximate the child deaths that could be caused by immunisation coverage reductions during COVID-19 outbreaks. In the high-impact scenario, we used previously reported country-specific child mortality impact estimates of childhood immunisation for diphtheria, tetanus, pertussis, hepatitis B, Haemophilus influenzae type b, Streptococcus pneumoniae, rotavirus, measles, meningitis A, rubella, and yellow fever to approximate the future deaths averted before 5 years of age by routine childhood vaccination during a 6-month COVID-19 risk period without catch-up campaigns. In the low-impact scenario, we approximated the health benefits of sustaining routine childhood immunisation on only the child deaths averted from measles outbreaks during the COVID-19 risk period. We assumed that contact-reducing interventions flattened the outbreak curve during the COVID-19 risk period, that 60% of the population will have been infected by the end of that period, that children can be infected by either vaccinators or during transport, and that upon child infection the whole household will be infected. Country-specific household age structure estimates and age-dependent infection-fatality rates were applied to calculate the number of deaths attributable to the vaccination clinic visits. We present benefit-risk ratios for routine childhood immunisation, with 95% uncertainty intervals (UIs) from a probabilistic sensitivity analysis.

Findings

In the high-impact scenario, for every one excess COVID-19 death attributable to SARS-CoV-2 infections acquired during routine vaccination clinic visits, 84 (95% UI 14-267) deaths in children could be prevented by sustaining routine childhood immunisation in Africa. The benefit-risk ratio for the vaccinated children is 85 000 (4900-546 000), for their siblings (<20 years) is 75 000 (4400-483 000), for their parents or adult carers (aged 20-60 years) is 769 (148-2700), and for older adults (>60 years) is 96 (14-307). In the low-impact scenario that approximates the health benefits to only the child deaths averted from measles outbreaks, the benefit-risk ratio to the households of vaccinated children is 3

(0·5-10); if the risk to only the vaccinated children is considered, the benefit-risk ratio is 3000 (182-21 000).
Interpretation
The deaths prevented by sustaining routine childhood immunisation in Africa outweigh the excess risk of COVID-19 deaths associated with vaccination clinic visits, especially for the vaccinated children. Routine childhood immunisation should be sustained in Africa as much as possible, while considering other factors such as logistical constraints, staff shortages, and reallocation of resources during the COVID-19 pandemic.
Funding
Gavi, the Vaccine Alliance; Bill & Melinda Gates Foundation. (Author)

20200930-16*

Building resilient societies after COVID-19: the case for investing in maternal, neonatal, and child health. Jacob CM, Briana DP, Di Renzo GP, et al (2020), The Lancet Public Health vol 5, no 11, November 2020, pp e624-e627
Available from: https://doi.org/10.1016/S2468-2667(20)30200-0

Resilient societies respond rapidly and effectively to health challenges and the associated economic consequences, and adapt to be more responsive to future challenges. Although it is only possible to recognise resilience retrospectively, the COVID-19 pandemic has occurred at a point in human history when, uniquely, sufficient knowledge is available on the early-life determinants of health to indicate clearly that a focus on maternal, neonatal, and child health (MNCH) will promote later resilience. This knowledge offers an unprecedented opportunity to disrupt entrenched strategies and to reinvest in MNCH in the post-COVID-19 so-called new normal. Furthermore, analysis of the short-term, medium-term, and longer-term consequences of previous socioeconomic shocks provides important insights into those domains of MNCH, such as neurocognitive development and nutrition, for which investment will generate the greatest benefit. Such considerations apply to high-income countries (HICs) and low-income and middle-income countries (LMICs). However, implementing appropriate policies in the post-COVID-19 recovery period will be challenging and requires political commitment and public engagement. (Author)

20200929-45*

Difference in levels of SARS-CoV-2 S1 and S2 subunits- and nucleocapsid protein-reactive SIgM/IgM, IgG and SIgA/IgA antibodies in human milk. Demers-Mathieu V, Dung M, Mathijssen GB, et al (2020), Journal of Perinatology 1 September 2020, online
Available from: https://doi.org/10.1038/s41372-020-00805-w
Full URL: https://doi.org/10.1038/s41372-020-00805-w
Objective
This study evaluated the presence and the levels of antibodies reactive to SARS-CoV-2 S1 and S2 subunits (S1 + S2), and nucleocapsid protein.
Study design
The levels of SARS-CoV-2 S1 + S2- and nucleocapsid-reactive SIgM/IgM, IgG and SIgA/IgA were measured in human milk samples from 41 women during the COVID-19 pandemic (2020-HM) and from 16 women 2 years prior to the outbreak (2018-HM).
Results
SARS-CoV-2 S1 + S2-reactive SIgA/IgA, SIgM/IgM and IgG were detected in 97.6%, 68.3% and 58.5% in human milk whereas nucleocapsid-reactive antibodies were detected in 56.4%, 87.2% and 46.2%, respectively. S1 + S2-reactive IgG was higher in milk from women that had symptoms of viral respiratory infection(s) during the last year than in milk from women without symptom. S1 + S2- and nucleocapsid-reactive IgG were higher in the 2020-HM group compared to the 2018-HM group.

Conclusions
The presence of SARS-CoV-2-reactive antibodies in human milk could provide passive immunity to breastfed infants and protect them against COVID-19 diseases. (Author) [Erratum: Journal of Perinatology, 16 September 2020, online]

20200929-15*

Impact of restrictions on parental presence in neonatal intensive care units related to coronavirus disease 2019. Mahoney AD, White RD, Velasquez A, et al (2020), Journal of Perinatology vol 40, suppl 1, September 2020, pp 36-46
Available from: https://doi.org/10.1038/s41372-020-0753-7
Full URL: https://doi.org/10.1038/s41372-020-0753-7

Objectives
To determine the relationship between the emergence of COVID-19 and neonatal intensive care unit (NICU) family presence as well as how NICU design affects these changes.
Study design
A cross-sectional survey from April 21 to 30, 2020. We queried sites regarding NICU demographics, NICU restrictions on parental presence, and changes in ancillary staff availability.
Results
Globally, 277 facilities responded to the survey. NICU policies preserving 24/7 parental presence decreased (83-53%, $p < 0.001$) and of preserving full parental participation in rounds fell (71-32%, $p < 0.001$). Single-family room design NICUs best preserved 24/7 parental presence after the emergence of COVID-19 (single-family room 65%, hybrid-design 57%, open bay design 45%, $p = 0.018$). In all, 120 (43%) NICUs reported reductions in therapy services, lactation medicine, and/or social work support.
Conclusions
Hospital restrictions have significantly limited parental presence for NICU admitted infants, although single-family room design may attenuate this effect. (Author)

20200928-36*

Nurturing visual social development in the NICU. Burns KH, Saunders BS, Burns SA (2020), Journal of Perinatology 5 September 2020, online
Available from: https://doi.org/10.1038/s41372-020-00813-w
Full URL: https://doi.org/10.1038/s41372-020-00813-w

Short correspondence piece discussing mask usage and developmental considerations when caring for infants and young children. The authors propose six interventions to be implemented in neonatal intensive care units to mitigate the impact of exclusively masked interactions. (LDO)

20200928-3*

Impact of physical distancing measures due to COVID-19 pandemic in England on childhood vaccination counts (data to week 37, 2020). Public Health England (2020), Health Protection Report vol 14, no 17, 28 September 2020, pp 1-10
Available from:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/921566/hpr1720_chldhd-VC_wk37.pdf

This series of reports reviews aggregated childhood vaccination counts of the first hexavalent vaccinations delivered to infants younger than 6 months and of the first MMR vaccinations delivered to children aged 12 to 18 months updated weekly from The Phoenix Partnership (TPP) GP IT system supplier as the means of assessing the impact of physical distancing measures on vaccination delivery. This second report includes data up to week 37 of 2020. (Author, edited)

20200928-2*

Impact of physical distancing measures due to COVID-19 pandemic in England on childhood vaccination counts. Public Health England (2020), Health Protection Report vol 14, no 16, 14 September 2020, pp 1-10

Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/917224/hpr1620_chldhd-VC.pdf

This report reviews aggregated childhood vaccination counts of the first hexavalent vaccinations delivered to infants younger than 6 months and of the first MMR vaccinations delivered to children aged 12 to 18 months updated weekly from The Phoenix Partnership (TPP) GP IT system supplier as the means of assessing the impact of physical distancing measures on vaccination delivery. (Author, edited)

20200928-14*

Reflections on COVID -19 and the potential impact on preterm infant feeding and speech, language and communication development. Harding C, Aloysius A, Bell N, et al (2020), Journal of Neonatal Nursing 8 September 2020, online

Infants needing the support of a neonatal unit have unique, individual needs that require a Synactive approach to enable effective management of both the environment and the infant themselves (Als, 1986). Parents working in partnership with neonatal colleagues play an essential role in developing competent skills to appraise an infant's function. For parents, learning to care and interact with their infant on a neonatal unit presents unexpected complications including learning to cope and be close to their baby in an unfamiliar setting (Cardin, 2020). The current COVID -19 pandemic has challenged all aspects of neonatal work causing anxiety and stress for all involved in infant care. Neonatal teams have been working together to continue to provide excellent care, and to make adaptations in a difficult and unfamiliar situation. A major change to practice has been the need to limit parent visiting time and access to the cot -side. This is further complicated by the need for practitioner use of face - masks and personal protective equipment when treating infants on neonatal units which has inevitably altered the traditional developmental care approaches undertaken in the UK (Altimier et al., 2015). (Author)

20200923-98*

Spectrum of neonatal COVID-19 in Iran: 19 infants with SARS-CoV-2 perinatal infections with varying test results, clinical findings and outcomes. Schwartz DA, Mohagheghi P, Beigi B, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 12 August 2020, online

Available from: https://doi.org/10.1080/14767058.2020.1797672

Full URL: https://doi.org/10.1080/14767058.2020.1797672

Background

There have been few cohorts of neonates with coronavirus disease-2019 (COVID-19) reported. As a result, there remains much to be learned about mechanisms of neonatal infection including potential vertical transmission, best methods of testing, and the spectrum of clinical findings. This communication describes the epidemiology, diagnostic test results and clinical findings of neonatal COVID-19 during the pandemic in Iran.

Materials and methods

This is a retrospective cohort study of 19 neonates infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) from 10 hospitals throughout Iran. We analyzed obstetrical information, familial COVID-19 status, neonatal medical findings, perinatal complications, hospital readmissions, patterns of repeated testing, and clinical outcomes.

Results
Eleven neonates had family members infected. Five mothers were negative for COVID-19 and four neonates had no identifiable family source of infection. The neonatal mortality rate from COVID-19 was 10%. Seven newborns (37%) were discharged from the hospital as healthy but required readmission for symptoms of COVID-19. There were 2 multifetal gestations - one set each of twins and triplets, each with disparate testing and clinical outcomes. Premature delivery was common, occurring in 12 of 19 infants (63%). Initial testing for COVID-19 was negative in 4 of the 19 neonates (21%) who subsequently became positive. In 2 cases, neonates tested positive at 1 and 2 h after birth which was suspicious for vertical transmission of SARS-CoV-2.
Conclusions
These cases have notable variation in the epidemiology, clinical features, results of testing and clinical outcomes among the infected newborns. Neonates initially testing negative for COVID-19 may require readmission due to infection. Two neonates were highly suspicious for intrauterine vertical transmission. Repeat testing of neonates who initially test negative for COVID-19 is recommended, without which 21% of neonatal infections would have been undiagnosed. (Author)

20200923-94*
COVID-19 and maternal, fetal and neonatal mortality: a systematic review. Hessami K, Homayoon N, Hashemi A, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 16 August 2020, online
Objective
This is the first comprehensive review to focus on currently available evidence regarding maternal, fetal and neonatal mortality cases associated with Coronavirus Disease 2019 (COVID-19) infection, up to July 2020.
Methods
We systematically searched PubMed, Scopus, Google Scholar and Web of Science databases to identify any reported cases of maternal, fetal or neonatal mortality associated with COVID-19 infection. The references of relevant studies were also hand-searched.
Results
Of 2815 studies screened, 10 studies reporting 37 maternal and 12 perinatal mortality cases (7 fetal demise and 5 neonatal death) were finally eligible for inclusion to this review. All maternal deaths were seen in women with previous co-morbidities, of which the most common were obesity, diabetes, asthma and advanced maternal age. Acute respiratory distress syndrome (ARDS) and severity of pneumonia were considered as the leading causes of all maternal mortalities, except for one case who died of thromboembolism during postpartum period. Fetal and neonatal mortalities were suggested to be a result of the severity of maternal infection or the prematurity, respectively. Interestingly, there was no evidence of vertical transmission or positive COVID-19 test result among expired neonates.
Conclusion
Current available evidence suggested that maternal mortality mostly happened among women with previous co-morbidities and neonatal mortality seems to be a result of prematurity rather than infection. However, further reports are needed so that the magnitude of the maternal and perinatal mortality could be determined more precisely. (Author)

20200923-72*
Study of amniotic fluid in pregnant women infected with SARS-CoV-2 in first and second trimester. Is there evidence of vertical transmission?. Lorente AMR, Guillen MP, Jimenez NL, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 30 August 2020, online

COVID-19 is a respiratory disease caused by Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The effects of this infection on fetal development and whether there is vertical transmission are currently unknown. We

present two cases of pregnant women with COVID-19 infection during the first and second trimester of gestation in which a PCR study of SARS-CoV-2 in amniotic fluid extracted by amniocentesis is performed to try to determine if there is vertical transmission. In both cases, the PCR result was negative. This fact could support the absence of vertical transmission when the infection occurs in these quarters. It would be advisable to carry out more extensive studies to be able to make this statement safely. (Author)

20200922-60*

Community-Onset Severe Acute Respiratory Syndrome Coronavirus 2 Infection in Young Infants: A Systematic Review. Mark EG, Golden WC, Gilmore MM, et al (2021), The Journal of Pediatrics vol 228, January 2021, pp 94-100.e3
Available from: https://doi.org/10.1016/j.jpeds.2020.09.008
Full URL: https://doi.org/10.1016/j.jpeds.2020.09.008

Objective
To summarize and evaluate current reports on community-onset severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in young infants.
Study design
We performed a systematic review to identify reports published from November 1, 2019, until June 15, 2020, on laboratory-confirmed community-onset SARS-CoV-2 infection in infants less than 3 months of age. We excluded studies reporting neonates with perinatal COVID exposure and diagnosis prior to hospital discharge and hospital-onset disease, as well as clinically diagnosed cases without confirmation. Two independent reviewers performed study screening, data abstraction, and risk of bias assessment. Variables of interest included patient age, exposure to COVID-19, past medical history, clinical symptoms, SARS-CoV-2 testing, laboratory findings, clinical course, and disposition.
Results
38 publications met inclusion criteria, including 23 single case reports, 14 case series, and 1 cohort study, describing 63 infants under 3 months of age with laboratory confirmed SARS-CoV-2 infection. Most cases were mild to moderate. Fever, respiratory, gastrointestinal, cardiac, and neurologic findings were reported. Laboratory abnormalities included neutropenia, lymphopenia, and elevated serum levels of inflammatory markers and aminotransferases. Fifty-eight (92%) infants were hospitalized, 13 (21%) were admitted to the intensive care unit (ICU), and 2 (3%) required mechanical ventilation. No death was reported.
Conclusions
Among young infants with laboratory-confirmed SARS-CoV-2 infection, most cases were mild to moderate and improved with supportive care. Our results demonstrate a need for a high index of suspicion for SARS-CoV-2 infection in young infants presenting with generalized symptoms such as fever or decreased feeding, even in the absence of respiratory symptoms. (Author)

20200922-57*

Meeting the Challenges of the COVID-19 Pandemic: Virtual Developmental Music Therapy Class for Infants in the Neonatal Intensive Care Unit. Negrete B (2020), Pediatric Nursing vol 46, no 4, July/August 2020, pp 198-201, 206
The COVID-19 pandemic has changed the way some music therapists provide developmental support in the Neonatal Intensive Care Unit (NICU). Due to safety restrictions in the NICU, adaptions have been put in place to support the developmental needs of patients and social needs of family members, through virtual developmental music therapy classes. These interactive classes provide developmental support, parent-to-parent connections, and socialization between patients. (Author)

20200917-4*

Vertical transmission of antibodies in infants born from mothers with positive serology to COVID-19 pneumonia. Vendola N, Stampini V, Amadori R, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 253, October 2020, pp 331-332
Available from: https://doi.org/10.1016/j.ejogrb.2020.08.023

Correspondence piece discussing the vertical transmission of immunoglobulin G antibodies in pregnant women with COVID-19. The authors present two cases demonstrating the presence of antibodies in the umbilical cord and peripheral blood. (LDO)

20200915-58*

Characteristics of Newborns Born to SARS-CoV-2-Positive Mothers: A Retrospective Cohort Study. Farghaly MAA, Kupferman F, Castillo F, et al (2020), American Journal of Perinatology vol 37, no 13, November 2020, pp 1310-1316
Available from: https://doi.org/10.1055/s-0040-1715862
Full URL: https://doi.org/10.1055/s-0040-1715862

Objective The novel virus known as severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) has led to a terrifying pandemic. The range of illness severity among children is variable. This study aims to assess the characteristics of newborns born to SARS-CoV-2-positive women compared with those mothers who tested negative.
Study Design This was a retrospective cohort study performed at Brookdale Hospital Medical Center in New York City from March to May 2020. Electronic medical records of mother-baby dyads were reviewed.
Results Seventy-nine mothers tested for SARS-CoV-2 were included, out of which 18.98% of mothers tested SARS-CoV-2 positive. We found a significant association between symptoms and SARS-CoV-2 status. We observed a significant association between newborns of SARS-CoV-2 positive and SARS-CoV-2 negative mothers regarding skin-to-skin contact ($p < 0.001$). Both groups showed significant differences regarding isolation ($p < 0.001$). Interestingly, regarding SARS-CoV-2 infection in newborns, only one newborn tested SARS-CoV-2 positive and was unstable in the neonatal intensive care unit (NICU). With the multivariable logistic regression model, babies of SARS-CoV-2 positive mothers were three times as likely to have desaturations in comparison to newborns from negative mothers. Also, newborns of SARS-CoV-2-positive mothers were four times more likely to have poor feeding, compared with newborns of SARS-CoV-2-negative mothers. Finally, babies of SARS-CoV-2-positive mothers were ten times more likely to be symptomatic at the 2-week follow-up.
Conclusion SARS-CoV-2 has caused major morbidity and mortality worldwide. Neonates born to mothers with confirmed or suspected SARS-CoV-2 are most of the time asymptomatic. However, neonatal critical illness due to SARS-CoV-2 is still a possibility; thus, isolation precautions (such as avoiding skin-to-skin contact and direct breastfeeding) and vertical transmission should be studied thoroughly. In addition, testing these newborns by nasopharyngeal swab at least at 24 hours after birth and monitoring them for the development of symptoms for 14 days after birth is needed. (Author)

20200915-50*

Clinical Analysis of Neonates Born to Mothers with or without COVID-19: A Retrospective Analysis of 48 Cases from Two Neonatal Intensive Care Units in Hubei Province. Liu W, Cheng H, Wang J, et al (2020), American Journal of Perinatology vol 37, no 13, November 2020, pp 1317-1323
Available from: https://doi.org/10.1055/s-0040-1716505
Full URL: https://doi.org/10.1055/s-0040-1716505

Objective The perinatal consequences of neonates born to severe acute respiratory syndrome-associated coronavirus-2 (SARS-CoV-2) infected mothers are uncertain. This study aimed to compare the differences in clinical manifestation, laboratory results, and outcomes of neonates born to mothers with or without coronavirus disease 2019 (COVID-19).

Study Design A total of 48 neonates were admitted to Tongji Hospital and HuangShi Maternal and Child Healthcare Hospital from January 17 to March 4, 2020. The neonates were divided into three groups according to the mothers' conditions: neonates born to mothers with confirmed COVID-19, neonates born to mothers with clinically diagnosed COVID-19, and neonates born to mothers without COVID-19. The clinical data of mothers and infants in the three groups were collected, compared, and analyzed.

Results The deliveries occurred in a negative pressure isolation room, and the neonates were separated from their mothers immediately after birth for further observation and treatment. None of the neonates showed any signs of fever, cough, dyspnea, or diarrhea. SARS-CoV-2 reverse transcriptase-polymerase chain reaction of the throat swab and feces samples from the neonates in all three groups was negative. No differences were detected in the whole blood cell, lymphocytes, platelet, and liver and renal function among the three groups. All mothers and their infants showed satisfactory outcomes, including a 28-week preterm infant.
Conclusion The clinical manifestations, radiological, and biochemical results did not show any difference between the three groups. No evidence of vertical transmission was found in this study whether the pregnant women developed coronavirus infection in the third (14 cases) or second trimester (1 case). (Author)

20200915-42*
Breastfeeding in COVID-19: A Pragmatic Approach. Ng YPM, Low YF, Goh XL, et al (2020), American Journal of Perinatology vol 37, no 13, November 2020, pp 1377-1384
Available from: https://doi.org/10.1055/s-0040-1716506
Full URL: https://doi.org/10.1055/s-0040-1716506

The novel coronavirus disease 2019 (COVID-19) pandemic has resulted in changes to perinatal and neonatal care, concentrating on minimizing risks of transmission to the newborn and health care staff while ensuring medical care is not compromised for both mother and infant. Current recommendations on infant care and feeding when mother has COVID-19 ranges from mother-infant separation and avoidance of human milk feeding, to initiation of early skin-to-skin contact and direct breastfeeding. Health care providers fearing risks of severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) maternal-infant transmission may veer toward restricted breastfeeding practices. We reviewed guidelines and published literature and propose three options for infant feeding depending on various scenarios. Option A involves direct breastfeeding with the infant being cared for by the mother or caregiver. In option B, the infant is cared for by another caregiver and receives mother's expressed milk. In the third option, the infant is not breastfed directly and does not receive mother's expressed milk. We recommend joint decision making by parents and the health care team. This decision is also flexible as situation changes. We also provide a framework for counseling mothers on these options using a visual aid and a corresponding structured training program for health care providers. Future research questions are also proposed. We conclude that evidence and knowledge about COVID-19 and breastfeeding are still evolving. Our options can provide a quick and flexible reference guide that can be adapted to local needs. (Author)

20200911-27*
Management strategy of pregnant women during COVID-19 pandemic. Suzumori N, Goto S, Sugiura-Ogasawara M (2020), Australian and New Zealand Journal of Obstetrics and Gynaecology vol 60, no 4, August 2020, pp E9-E10
Available from: https://doi.org/10.1111/ajo.13202
Full URL: https://doi.org/10.1111/ajo.13202
Letter to the editor presenting a strategy in flowchart format for the management of pregnant women during the COVID-19 pandemic. The authors suggest that mode of delivery should be caesarean section in all cases of COVID-19, and neonates should be rapidly separated from mothers to prevent transmission. (LDO)

20200910-32*

Comparative nanostructure consideration on Wuhan novel coronavirus and possibility of transplacental transmission. Sriwijitalai W, Wiwanitkit V (2020), American Journal of Obstetrics & Gynecology (AJOG) vol 223, no 6, December 2020, p 955

Available from: https://doi.org/10.1016/j.ajog.2020.08.061

Short correspondence piece suggesting that plansplacental vertical transmission of SARS-CoV-2 is unlikely. The authors argue that SARS-CoV-2 infection in neonates may be due to respiratory transmission from close contact with the mother. (LDO)

20200910-16*

Review of guidelines and recommendations from 17 countries highlights the challenges that clinicians face caring for neonates born to mothers with COVID-19. Yeo KT, Oei JL, De Luca D, et al (2020), Acta Paediatrica vol 109, no 11, November 2020, pp 2192-2207

Available from: https://doi.org/10.1111/apa.15495

Aim

This review examined how applicable national and regional clinical practice guidelines and recommendations for managing neonates born to mothers with COVID-19 mothers were to the evolving pandemic.

Methods

A systematic search and review identified 20 guidelines and recommendations that had been published by May 25, 2020. We analysed documents from 17 countries: Australia, Brazil, Canada, China, France, India, Italy, Japan, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, the UK and the United States.

Results

The documents were based on expert consensus with limited evidence and were of variable, low methodological rigour. 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 was widely encouraged, two countries specifically prohibited this.

Conclusion

The guidelines and recommendations for managing infants affected by COVID-19 were of low, variable quality and may be unsustainable. It is important that transmission risks are not increased when new information is incorporated into clinical recommendations. Practice guidelines should emphasise the extent of uncertainty and clearly define gaps in the evidence. (Author)

20200909-13*

Novel coronavirus infection (COVID-19) in children younger than one year: A systematic review of symptoms, management and outcomes. Raba AA, Abobaker A, Elgenaidi IS, et al (2020), Acta Paediatrica vol 109, no 10, October 2020, pp 1948-1955

Available from: https://doi.org/10.1111/apa.15422

Full URL: https://doi.org/10.1111/apa.15422

Aim

The aim of this systematic review was to evaluate the clinical characteristics of COVID-19 in neonates and children under one year of age.

Methods
A systematic literature review of the MEDLINE, PubMed, CINAHL, Embase and EBSCO databases was carried out for studies from January 1, 2020, to April 7, 2020. We included all papers that addressed clinical manifestations, laboratory results, imaging findings and outcomes in infants and neonates.
Results
Our search identified 77 peer-reviewed papers, and 18 papers covering 160 infants were reviewed. One paper was from Vietnam, and the other 17 were from China: eight were cross-sectional studies, eight were case reports, one was a case series, and one was a prospective cohort study. The most common clinical symptoms were fever (54%) and cough (33%). Most infants were treated symptomatically, with frequent use of various empirical medications. Infants and neonates tended to have more severe COVID-19 disease than older children: 11 (7%) were admitted to intensive care and one infant died. The mortality rate was 0.006%, with favourable outcomes in most cases.
Conclusion
Infants and neonates were more vulnerable to more severe COVID-19 disease than older children, but morbidity and mortality were low. (Author)

20200908-4*

Appropriate care for neonates born to mothers with COVID-19 disease. Tran HT, Nguyen PTK, Huynh LT, et al (2020), Acta Paediatrica vol 109, no 9, September 2020, pp 1713-1716
Available from: https://doi.org/10.1111/apa.15413
Full URL: https://doi.org/10.1111/apa.15413

The global COVID-19 pandemic has been associated with high rates of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission, morbidity and mortality in the general population. Evidence-based guidance on caring for babies born to mothers with COVID-19 is needed. There is currently insufficient evidence to suggest vertical transmission between mothers and their newborn infants. However, transmission can happen after birth from mothers or other carers. 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 the mother with COVID-19 and her baby. (Author)

20200908-17*

Overview of the care of mothers and newborns with COVID-19; joint position statement. National Association of Neonatal Nurses, National Perinatal Association (2020), Advances in Neonatal Care vol 20, no 4, August 2020, p 268
Available from: https://doi.org/10.1097/ANC.0000000000000776
Full URL: https://doi.org/10.1097/ANC.0000000000000776

A joint position statement from the National Association of Neonatal Nurses (NANN), and the National Perinatal Association (NPA) on the care of the mother-infant dyad during the COVID-19 pandemic. (JSM)

20200908-13*

Spectrum of COVID-19 in children. Ranabothu S, Onteddu S, Nalleballe K, et al (2020), Acta Paediatrica vol 109, no 9, September 2020, pp 1899-1900
Available from: https://doi.org/10.1111/apa.15412
Full URL: https://doi.org/10.1111/apa.15412

Brief report on the clinical characteristics of infants and children with laboratory confirmed COVID-19. Findings demonstrate that the most common symptoms were a fever and cough. (LDO)

20200907-16*

Neonatal outcome in 29 pregnant women with COVID-19: A retrospective study in Wuhan, China. Wu Y-T, Liu J, Xu J-J, et al (2020), PLoS Medicine vol 17, no 7, 28 July 2020, e1003195

Available from: https://doi.org/10.1371/journal.pmed.1003195

Full URL: https://doi.org/10.1371/journal.pmed.1003195

Background

As of June 1, 2020, coronavirus disease 2019 (COVID-19) has caused more than 6,000,000 infected persons and 360,000 deaths globally. Previous studies revealed pregnant women with COVID-19 had similar clinical manifestations to nonpregnant women. However, little is known about the outcome of neonates born to infected women.

Methods and findings

In this retrospective study, we studied 29 pregnant women with COVID-19 infection delivered in 2 designated general hospitals in Wuhan, China between January 30 and March 10, 2020, and 30 neonates (1 set of twins). Maternal demographic characteristics, delivery course, symptoms, and laboratory tests from hospital records were extracted. Neonates were hospitalized if they had symptoms (5 cases) or their guardians agreed to a hospitalized quarantine (13 cases), whereas symptom-free neonates also could be discharged after birth and followed up through telephone (12 cases). For hospitalized neonates, laboratory test results and chest X-ray or computed tomography (CT) were extracted from hospital records. The presence of antibody of SARS-CoV-2 was assessed in the serum of 4 neonates. Among 29 pregnant COVID-19-infected women (13 confirmed and 16 clinical diagnosed), the majority had higher education (56.6%), half were employed (51.7%), and their mean age was 29 years. Fourteen women experienced mild symptoms including fever (8), cough (9), shortness of breath (3), diarrhea (2), vomiting (1), and 15 were symptom-free. Eleven of 29 women had pregnancy complications, and 27 elected to have a cesarean section delivery. Of 30 neonates, 18 were admitted to Wuhan Children's Hospital for quarantine and care, whereas the other 12 neonates discharged after birth without any symptoms and had normal follow-up. Five hospitalized neonates were diagnosed as COVID-19 infection (2 confirmed and 3 suspected). In addition, 12 of 13 other hospitalized neonates presented with radiological features for pneumonia through X-ray or CT screening, 1 with occasional cough and the others without associated symptoms. SARS-CoV-2 specific serum immunoglobulin M (IgM) and immunoglobulin G (IgG) were measured in 4 neonates and 2 were positive. The limited sample size limited statistical comparison between groups.

Conclusions

In this study, we observed COVID-19 or radiological features of pneumonia in some, but not all, neonates born to women with COVID-19 infection. These findings suggest that intrauterine or intrapartum transmission is possible and warrants clinical caution and further investigation.

Trial registration

Chinese Clinical Trial Registry, ChiCTR2000031954 (Maternal and Perinatal Outcomes of Women with coronavirus disease 2019 (COVID-19): a multicenter retrospective cohort study). (Author)

20200907-13*

Clinical and epidemiological characteristics of pediatric SARS-CoV-2 infections in China: A multicenter case series. Zhang C, Gu J, Chen Q, et al (2020), PLoS Medicine vol 17, no 6, 16 June 2020, e1003130

Available from: https://doi.org/10.1371/journal.pmed.1003130

Full URL: https://doi.org/10.1371/journal.pmed.1003130

Background

As of April 18, 2020, over 2,000,000 patients had been diagnosed with coronavirus disease-2019 (COVID-19) globally, and more than 140,000 deaths had been reported. The clinical and epidemiological characteristics of adult patients have been documented recently. However, information on pediatric patients is limited. We describe the clinical and

epidemiological characteristics of pediatric patients to provide valuable insight into the early diagnosis and assessment of COVID-19 in children.
Methods and findings
This retrospective, observational study involves a case series performed at 4 hospitals in West China. Thirty-four pediatric patients with COVID-19 were included from January 27 to February 23, 2020. The final follow-up visit was completed by March 16, 2020. Clinical and epidemiological characteristics were analyzed on the basis of demographic data, medical history, laboratory tests, radiological findings, and treatment information. Data analysis was performed for 34 pediatrics patients with COVID-19 aged from 1 to 144 months (median 33.00, interquartile range 10.00-94.25), among whom 14 males (41%) were included. All the patients in the current study presented mild (18%) or moderate (82%) forms of COVID-19. A total of 48% of patients were noted to be without a history of exposure to an identified source. Mixed infections of other respiratory pathogens were reported in 16 patients (47%). Comorbidities were reported in 6 patients (18%). The most common initial symptoms were fever (76%) and cough (62%). Expectoration (21%), vomiting (12%), and diarrhea (12%) were also reported in a considerable portion of cases. A substantial increase was detected in serum amyloid A for 17 patients (among 20 patients with available data; 85%) and in high-sensitivity C-reactive protein for 17 patients (among 29 patients with available data; 59%), whereas a decrease in prealbumin was noticed in 25 patients (among 32 patients with available data; 78%). In addition, significant increases in the levels of lactate dehydrogenase and α-hydroxybutyrate dehydrogenase were detected in 28 patients (among 34 patients with available data; 82%) and 25 patients (among 34 patients with available data; 74%), respectively. Patchy lesions in lobules were detected by chest computed tomographic scans in 28 patients (82%). Ground-glass opacities, which were a typical feature in adults, were rare in pediatric patients (3%). Rapid radiologic progression and a late-onset pattern of lesions in the lobules were also noticed. Lesions in lobules still existed in 24 (among 32 patients with lesions; 75%) patients that were discharged, although the main symptoms disappeared a few days after treatment. All patients were discharged, and the median duration of hospitalization was 10.00 (8.00-14.25) days. The current study was limited by the small sample size and a lack of dynamic detection of inflammatory markers.
Conclusions
Our data systemically presented the clinical and epidemiological features, as well as the outcomes, of pediatric patients with COVID-19. Stratified analysis was performed between mild and moderate cases. The findings offer new insight into early identification and intervention in pediatric patients with COVID-19. (Author)

20200902-36
Fetal Transient Skin Edema in Two Pregnant Women With Coronavirus Disease 2019 (COVID-19). Garcia-Manau P, Garcia-Ruiz I, Rodo C, et al (2020), Obstetrics & Gynecology vol 136, no 5, November 2020, pp 1016-1020
BACKGROUND:
The risk of vertical transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection remains unknown. Positive reverse-transcription polymerase chain reaction (RT-PCR) test results for SARS-CoV-2 infection in neonates and placental tissue have been reported, and immunoglobulin M antibodies have been detected in neonates born to mothers with infection.
CASES:
The first case is a woman at 22 3/7 weeks of gestation with coronavirus disease 2019 (COVID-19) who was admitted to the intensive care unit. In the second case, the patient remained at home with mild symptoms, starting at 20 weeks of gestation. In both cases, fetal skin edema was observed on ultrasound examination while maternal SARS-COV-2 RT-PCR test results were positive and resolved when maternal SARS-COV-2 RT-PCR test results became negative. The RT-PCR test result for SARS-CoV-2 in amniotic fluid was negative in both cases. The two pregnancies are ongoing and uneventful.
CONCLUSION:
Transient fetal skin edema noted in these two patients with COVID-19 in the second trimester may represent results

of fetal infection or altered fetal physiology due to maternal disease or may be unrelated to the maternal illness. (Author)

20200901-27*

A review of newborn outcomes during the COVID-19 pandemic. Kyle MH, Glassman ME, Khan A, et al (2020), Seminars in Perinatology vol 44, no 7, November 2020, 151286

Available from: https://doi.org/10.1016/j.semperi.2020.151286
Full URL: https://doi.org/10.1016/j.semperi.2020.151286

As the COVID-19 pandemic continues to spread worldwide, it is crucial that we determine populations that are at-risk and develop appropriate clinical care policies to protect them. While several respiratory illnesses are known to seriously impact pregnant women and newborns, preliminary data on the novel SARS-CoV-2 Coronavirus suggest that these groups are no more at-risk than the general population. Here, we review the available literature on newborns born to infected mothers and show that newborns of mothers with positive/suspected SARS-CoV-2 infection rarely acquire the disease or show adverse clinical outcomes. With this evidence in mind, it appears that strict postnatal care policies, including separating mothers and newborns, discouraging breastfeeding, and performing early bathing, may be more likely to adversely impact newborns than they are to reduce the low risk of maternal transmission of SARS-CoV-2 or the even lower risk of severe COVID-19 disease in otherwise healthy newborns. (Author)

20200901-24*

Care of the COVID-19 exposed complex newborn infant. Krishnamurthy G, Sahni R, Leone T, et al (2020), Seminars in Perinatology vol 44, no 7, November 2020, 151282

Available from: https://doi.org/10.1016/j.semperi.2020.151282
Full URL: https://doi.org/10.1016/j.semperi.2020.151282

As we confront COVID-19, the global public health emergency of our times, new knowledge is emerging that, combined with information from prior epidemics, can provide insights on how to manage this threat in specific patient populations. Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS), both caused by coronaviruses, caused serious respiratory illness in pregnant women that resulted in adverse perinatal outcomes. Thus far, COVID-19 appears to follow a mild course in the vast majority of pregnant women. A significant proportion of pregnant women appear to be asymptomatic carriers of SARS-CoV-2. However, there is limited information on how COVID-19 impacts the fetus and whether vertical transmission occurs. While these knowledge gaps are addressed, it is important to recognize the highly efficient transmission characteristics of SARS-C0V-2 and its potential for causing serious disease in vulnerable individuals, including health care workers. This review provides perspectives from a single center in New York City, the epicenter of the pandemic within the United States. It offers an overview of the preparations required for deliveries of newborns of mothers with COVID-19 and the management of neonates with particular emphasis on those born with complex issues. (Author)

20200824-84*

Visitation restrictions: is it right and how do we support families in the NICU during COVID-19?. Murray PD, Swanson JR (2020), Journal of Perinatology vol 40, no 10, October 2020, pp 1576-1581

Available from: https://doi.org/10.1038/s41372-020-00781-1
Full URL: https://doi.org/10.1038/s41372-020-00781-1

Although the COVID-19 pandemic has largely not clinically affected infants in neonatal intensive care units around the globe, it has affected how care is provided. Most hospitals, including their NICUs, have significantly reduced parental and family visitation privileges. From an ethical perspective, this restriction of parental visitation in settings where

infectious risk is difficult to understand. No matter what the right thing to do is, NICUs are currently having to support families of their patients via different mechanisms. In this perspective, we discuss ways NICUs can support parents and families when they are home and when they are in the NICU as well as provide infants the support needed when family members are not able to visit. (Author)

20200821-42*

Promotion of Maternal-Infant Mental Health and Trauma-Informed Care During the Coronavirus Disease 2019 Pandemic. Choi K, Records K, Low LK, et al (2020), JOGNN: Journal of Obstetric, Gynecologic and Neonatal Nursing 11 August 2020, online

The coronavirus disease 2019 pandemic has led to disruptions in health care in the perinatal period and women's childbirth experiences. Organizations that represent health care professionals have responded with general practice guidelines for pregnant women, but limited attention has been devoted to mental health in the perinatal period during a pandemic. Evidence suggests that in this context, significant psychological distress may have the potential for long-term psychological harm for mothers and infants. For infants, this risk may extend into early childhood. In this commentary, we present recommendations for practice, research, and policy related to mental health in the perinatal period. These recommendations include the use of a trauma-informed framework to promote social support and infant attachment, use of technology and telehealth, and assessment for mental health needs and experiences of violence. (Author)

20200821-4*

The downstream effects of COVID-19: a call for supporting family wellbeing in the NICU. Erdei C, Liu CH (2020), Journal of Perinatology vol 40, no 9, September 2020, pp 1283-1285

Available from: https://doi.org/10.1038/s41372-020-0745-7

Full URL: https://doi.org/10.1038/s41372-020-0745-7

Parents of NICU infants are a vulnerable population from a psychological perspective, and often experience high levels of acute stress, depression, anxiety, and post-traumatic stress. The added burden of the current SARS CoV-2 disease (COVID-19) pandemic is likely to exacerbate these issues, with potential implications for the wellbeing of infants and families in the short- and long-term. In this paper, we propose utilizing the stress contagion framework and consider how psychosocial stress can 'spill over' into the parent-infant relationship domain, which can impact child development and family wellbeing longer term. As the effects of the pandemic will likely persist well beyond the acute stage, we offer advocacy points and general guidelines for healthcare professionals to consider in their quest to mitigate stress and build resilience in NICU families. (Author)

20200821-33*

The COVID-19 Pandemic: The Role of Childbirth Educators in Promoting and Protecting Breastfeeding. Spatz DL (2020), The Journal of Perinatal Education vol 29, no 3, Summer 2020, pp 120-122

The healthcare system is being challenged in the United States and worldwide due to the pandemic of coronavirus disease 2019 (COVID-19). However, all through this pandemic, families will continue to birth children. 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 crisis, breastfeeding and the provision of human milk remains recommended by national and international organizations. (Author)

20200821-3*

Covid-19 and breastfeeding: what's the risk?. Hand IL, Noble L (2020), Journal of Perinatology vol 40, no 10, October 2020, pp 1459-1461

Available from: https://doi.org/10.1038/s41372-020-0738-6
Full URL: https://doi.org/10.1038/s41372-020-0738-6

Short commentary on the risks and benefits of breastfeeding during the COVID-19 pandemic. Discusses vertical disease transmission and the protective qualities of antibodies in breast milk. (LDO)

20200821-2*

Newborns of COVID-19 mothers: short-term outcomes of colocating and breastfeeding from the pandemic's epicenter. Patil UP, Maru S, Krishnan P, et al (2020), Journal of Perinatology vol 40, no 10, October 2020, pp 1455-1458
Available from: https://doi.org/10.1038/s41372-020-0765-3

Full URL: https://doi.org/10.1038/s41372-020-0765-3

Retrospective study on live births to women who tested positive for SARS-CoV-2 at a Baby Friendly Hospital in Queens, New York. 11% of well newborns were placed in isolation, 16% were admitted to neonatal intensive care units and 94% were breastfed within one hour of birth. 73% of newborns tested negative and 6.6% tested positive for SARS-CoV-2, and none were reported to have any symptoms consistent with COVID-19. (LDO)

20200820-6*

COVID-19 and pregnancy: A review of clinical characteristics, obstetric outcomes and vertical transmission. Pettirosso E, Giles M, Cole S, et al (2020), Australian and New Zealand Journal of Obstetrics and Gynaecology (ANZJOG) vol 60, no 5, October 2020, pp 640-659

Available from: https://doi.org/10.1111/ajo.13204
Full URL: https://doi.org/10.1111/ajo.13204

Background
Since its emergence in December 2019, COVID-19 has spread to over 210 countries, with an estimated mortality rate of 3-4%. Little is understood about its effects during pregnancy.
Aims
To describe the current understanding of COVID-19 illness in pregnant women, to describe obstetric outcomes and to identify gaps in the existing knowledge.
Methods
Medline Ovid, EMBASE, World Health Organization COVID-19 research database and Cochrane COVID-19 in pregnancy spreadsheet were accessed on 18/4, 18/5 and 23/5 2020. Articles were screened via Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. The following were excluded: reviews, opinion pieces, guidelines, articles pertaining solely to other viruses, single case reports.
Results
Sixty articles were included in this review. Some pregnant participants may have been included in multiple publications, as admission dates overlap for reports from the same hospital. However, a total of 1287 confirmed SARS-CoV-2 positive pregnant cases are reported. Where universal testing was undertaken, asymptomatic infection occurred in 43.5-92% of cases. In the cohort studies, severe and critical COVID-19 illness rates approximated those of the non-pregnant population. Eight maternal deaths, six neonatal deaths, seven stillbirths and five miscarriages were reported. Thirteen neonates were SARS-CoV-2 positive, confirmed by reverse transcription polymerase chain reaction of nasopharyngeal swabs.

Conclusions
Where universal screening was conducted, SARS-CoV-2 infection in pregnancy was often asymptomatic. Severe and critical disease rates approximate those in the general population. Vertical transmission is possible; however, it is unclear whether SARS-CoV-2 positive neonates were infected in utero, intrapartum or postpartum. Future work should assess risks of congenital syndromes and adverse perinatal outcomes where infection occurs in early and mid-pregnancy. (Author)

20200820-50*
Maternal and infant outcomes of full-term pregnancy combined with COVID-2019 in Wuhan, China: retrospective case series. Chen Y, Bai J (2020), Archives of Gynecology and Obstetrics vol 302, no 3, September 2020, pp 545-551
Available from: https://doi.org/10.1007/s00404-020-05573-8
Full URL: https://doi.org/10.1007/s00404-020-05573-8

Objective
To investigate the maternal and infant outcomes of full-term pregnant patients in Wuhan, China, who were infected with 2019 severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that is responsible for coronavirus disease 2019 (COVID-2019).
Design
Retrospective case series.
Setting
The Central Hospitals of Wuhan, Tongji Medical College, Huazhong University of Science and Technology in Wuhan, China.
Participants
Twenty one full-term pregnant patients who were admitted to the Central Hospital of Wuhan, Tongji Medical College, Huazhong University of Science and Technology, confirmed SARS-CoV-2 infection and COVID-2019 with laboratorial and clinical methods, were reviewed by our medical team, and the data were collected from January 20, 2020 to February 29, 2020.
Main clinical data collection
Clinical data had been collecting using a standard case report form, such as epidemiological history, clinical manifestations, auxiliary examination of major laboratory and clinic, etc. All the information was collected and confirmed by our medical team.
Results
Twenty one full-term pregnant patients were reviewed (median age 29 years), and no patients were admitted to intensive care unit (ICU), and died during the treating progress. According to our review, all the cases were infected by human to human transmission, and the most common symptoms at onset of illness were cough in 17 (80.95%), fatigue in 10 (47.62%), fever in 7 (33.33%), expectoration in 1 (4.76%), and only one patient (4.76%) developed shortness of breath on admission. The median time from exposure to onset of illness was 10 days (interquartile range 7 -2 days), and from onset of symptoms to first hospital admission was 1 day (interquartile range 1-2 days).
Conclusions
As of February 29, 2020, all the patients who were full-term pregnancy combined with COVID-2019 were cured and delivered successfully, and all the newborns were not infected with SARS-CoV-2, and there were no evidence of mother-to-child transmission. (Author)

20200820-114*

Vertical transmission of coronavirus disease 2019: a systematic review and meta-analysis. Kotlyar A, Grechukhina O, Chen A, et al (2021), American Journal of Obstetrics & Gynecology (AJOG) vol 224, no 1, January 2021, pp 35-53.e3
Available from: https://doi.org/10.1016/j.ajog.2020.07.049
Full URL: https://doi.org/10.1016/j.ajog.2020.07.049

Objective
We sought to conduct a systematic review of the current literature to determine estimates of vertical transmission of COVID-19 based upon early RNA detection of SARS-CoV-2 after birth from various neonatal/fetal sources and neonatal serology.
Data sources
Eligible studies published up to May 28, 2020 were retrieved from Pubmed, EMbase, MedRXiv, BioRXiv collection databases.
Study eligibility criteria
This systematic review included cohort studies, case series and case reports of pregnant women who had COVID-19 infection as confirmed by positive SARS-CoV-2 viral RNA testing, and had reported data regarding testing of neonates/fetuses for SARS-CoV-2 immediately after birth and up to within 48hrs of birth. In total, 30 eligible case reports describing 43 tested neonates, and 38 cohort/case series studies describing 936 tested neonates were included.
Study appraisal and synthesis methods
The methodological quality of all included studies was evaluated by a modified Newcastle-Ottawa scale. Quantitative synthesis was performed on cohort/case series studies according to neonatal biological specimen site to reach pooled proportions of vertical transmission.
Results
Our quantitative synthesis revealed that of 936 neonates from COVID-19 infected mothers, 27 neonates had SARS-CoV-2 viral RNA positive nasopharyngeal swab, indicating a pooled proportion of 3.2% (95% CI 2.2-4.3%) for vertical transmission. Notably, the pooled proportion of SARS-CoV-2 positivity in neonates by nasopharyngeal swab in studies from China was 2.0% (8/397) which was similar to pooled proportion of 2.7% (14/517) in studies from outside of China. SARS-CoV-2 viral RNA testing in neonatal cord blood was positive in 2.9% (1/34) of samples, 7.7% (2/26) of placenta samples, 0% (0/51) of amniotic fluid and 0% (0/17) of urine samples and 9.7% (3/31) of fecal/rectal swabs. Neonatal serology was positive in 3/82 (3.7%) (based upon the presence of IgM).
Conclusion
Vertical transmission of SARS-CoV-2 is possible and appears to occur in a minority of cases of maternal COVID-19 infection in third trimester. Rates of infection are similar to other pathogens that cause congenital infections. However, given the paucity of early trimester data, no assessment can yet be made regarding rates of vertical transmission in early pregnancy as well as potential risk for consequent fetal morbidity and mortality. (Author)

20200819-64*

Protecting Breastfeeding during the COVID-19 Pandemic. Cheema R, Partridge E, Kair LR, et al (2020), American Journal of Perinatology 21 July 2020, online

The severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) pandemic has impacted all patient populations including pregnant mothers. There is an incomplete understanding of SARS-CoV-2 pathogenesis and transmission potential at this time and the resultant anxiety has led to variable breastfeeding recommendations for suspected or confirmed mothers with novel coronavirus disease 2019 (COVID-19). Due to the potential concern for transmission of infection from maternal respiratory secretions to the newborn, temporary separation of the maternal-baby dyad, allowing for expressed breast milk to be fed to the infant, was initially recommended but later revised to include breastfeeding by the American Academy of Pediatrics in contrast to international societies, which recommend direct

breastfeeding. This separation can have negative health and emotional implications for both mother and baby. Only 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 the newborns still remains unclear and may indeed be providing protective antibodies against SARS-CoV-2 infection even in infected neonates. Other modes of transmission of infection to neonates from infected mothers or any care providers cannot be overemphasized. Symptomatic mothers on hydroxychloroquine can safely breastfeed and no adverse effects were reported in a baby treated with remdesivir in another drug trial. The excretion of sarilumab in human breast milk is unknown at this time. Hence, given the overall safety of breast milk and both short-term and long- term nutritional, immunological, and developmental advantages of breast milk to newborn, breast milk should not be withheld from baby. 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. We strongly recommend direct breastfeeding with appropriate hygiene precautions unless the maternal or neonatal health condition warrants separation of this dyad. (Author)

20200819-63*

Intrauterine transfusion in COVID-19 positive mother vertical transmission risk assessment. Filimonovic D, Lackovic M, Filipovic I, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 252, September 2020, pp 617-618

Available from: https://doi.org/10.1016/j.ejogrb.2020.07.039

Full URL: https://doi.org/10.1016/j.ejogrb.2020.07.039

Short correspondence piece discussing an intrauterine transfusion in a 33-year-old pregnant woman diagnosed with COVID-19. The premature infant was delivered at 32 weeks' gestation via caesarean section and tested negative for SARS-CoV-2. (LDO)

20200819-48*

Outcomes in COVID-19 Positive Neonates and Possibility of Viral Vertical Transmission: A Narrative Review. Sheth S, Shah N, Bhandari V (2020), American Journal of Perinatology vol 37, no 12, October 2020, pp 1208-1216

Objective Novel coronavirus disease 2019 (COVID-19) seems to affect adults and pediatric patients differently. While neonates are a special population, little is known about the neonatal outcomes. This study aimed to investigate the outcomes in COVID-19 positive neonates and incidence of vertical transmission of the virus by reviewing available literature.

Study Design This study is a narrative review of available literature on 'COVID-19 in neonates,' for which PubMed and Google Scholar were used to search the published articles.

Results We summarized the data from 39 published studies that are comprised of 326 COVID-19 positive peripartum mothers with respective neonatal outcomes. Twenty-three neonates have been reported to be COVID-19 positive. Male neonates were affected significantly more (79%) than female neonates. Approximately 3% neonates acquired infection through suspected vertical transmission. Strict infection prevention measures during the perinatal time can significantly reduce the chance of horizontal transmission of the virus. Overall, neonates were asymptomatic or mildly symptomatic regardless of gestational age at birth and required only supportive measures. There was 0% mortality in COVID-19 positive neonates.

Conclusion From available published data to date, we can conclude that the prognosis of COVID-19 positive neonates is good with no mortality. There appears to be minimal vertical transmission of the infection. (Author)

20200819-46*

Vertical Transmission of SARS-CoV-2 (COVID-19): Are Hypotheses More than Evidences?. Auriti C, De Rose DU, Tzialla C, et al (2020), American Journal of Perinatology 5 August 2020, online

In spite of the increasing, accumulating knowledge on the novel pandemic coronavirus severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), questions on the coronavirus disease-2019 (COVID-19) infection transmission from mothers to fetuses or neonates during pregnancy and peripartum period remain pending and have not been addressed so far. SARS-CoV-2, a RNA single-stranded virus, has been detected in the amniotic fluid, in the cord blood and in the placentas of the infected women. In the light of these findings, the theoretical risk of intrauterine infection for fetuses, or of peripartum infection occurring during delivery for neonates, has a biological plausibility. The extent of this putative risk might, however, vary during the different stages of pregnancy, owing to several variables (physiological modifications of the placenta, virus receptors' expression, or delivery route). This brief review provides an overview of the current evidence in this area. Further data, based on national and international multicenter registries, are needed not only to clearly assess the extent of the risk for vertical transmission, but also to ultimately establish solid guidelines and consistent recommendations. (Author)

20200819-39*

A Case Report to Assess Passive Immunity in a COVID Positive Pregnant Patient. Toner LE, Gelber SE, Pena JA, et al (2020), American Journal of Perinatology vol 37, no 12, October 2020, pp 1280-1282

Available from: https://doi.org/10.1055/s-0040-1715643

Full URL: https://doi.org/10.1055/s-0040-1715643

Introduction Data regarding transplacental passage of maternal coronavirus disease 2019 (COVID-19) antibodies and potential immunity in the newborn is limited.

Case Report We present a 25-year-old multigravida with known red blood cell isoimmunization, who was found to be COVID-19 positive at 27 weeks of gestation while undergoing serial periumbilical blood sampling and intrauterine transfusions. Maternal COVID-19 antibody was detected 2 weeks after positive molecular testing. Antibodies were never detected on cord blood samples from two intrauterine fetal cord blood samples as well as neonatal cord blood at the time of delivery.

Conclusion This case demonstrates a lack of passive immunity of COVID-19 antibodies from a positive pregnant woman to her fetus, neither in utero nor at the time of birth. Further studies are needed to understand if passage of antibodies can occur and if that can confer passive immunity in the newborn.

Key Points

Passive immunity should not be assumed in COVID-19 infection in pregnancy.

Isoimmunization may impair passive immunity of certain antibodies.

Vaccination to or maternal infection of COVID-19 may not be protective for the fetus. (Author)

20200819-32*

Epidemiological trends in Kawasaki disease during COVID-19 in Singapore. Yung CF, Nadua KD, Oh BK, et al (2020), The Journal of Pediatrics 24 July 2020, online

Available from: https://doi.org/10.1016/j.jpeds.2020.07.063

Full URL: https://doi.org/10.1016/j.jpeds.2020.07.063

To the Editor

We read with interest the clinical profile of 33 children with multisystem inflammatory syndrome in children (MIS-C) by Kaushik et al from three New York City tertiary care children's hospitals [1]. There have been similar reports of a surge in children presenting with systemic inflammation, including Kawasaki-like disease from Europe and other parts of the United States but not from Asia to date [2, 3, 4, 5]. We compared the epidemiologic trends in Kawasaki disease

at the only public specialist children's hospital in Singapore pre-COVID-19 (January 1, 2017-December 31, 2019) and during COVID-19 (January 1, 2020-April 30, 2020). (Author)

20200819-22*

Impact of Maternal SARS-CoV-2 Detection on Breastfeeding Due to Infant Separation at Birth. Popofsky S, Noor A, Leavens-Maurer J, et al (2020), The Journal of Pediatrics vol 226, November 2020, pp 64-70
Available from: https://doi.org/10.1016/j.jpeds.2020.08.004
Full URL: https://doi.org/10.1016/j.jpeds.2020.08.004

Objective

To assess the impact of separation of SARS-CoV-2 PCR-positive mother-newborn dyads on breastfeeding outcomes.

Study design

This is an observational longitudinal cohort study of SARS-CoV-2 PCR-positive mothers and their infants at three NYU Langone Health hospitals from March 25, 2020 through May 30, 2020. Mothers were surveyed by telephone regarding pre-delivery feeding plans, in-hospital feeding, and home feeding of their neonates. Any change prompted an additional question to determine whether this change was due to COVID-19.

Results

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). Only two 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 among the separated compared with the unseparated group (49.0% vs 16.7%, p<0.001). When dyads were further stratified by symptom status into four groups (asymptomatic separated, asymptomatic unseparated, symptomatic separated, and symptomatic unseparated), results remained unchanged.

Conclusion

In the setting of COVID-19, separation of mother-newborn dyads impacts breastfeeding outcomes, with lower rates of breastfeeding both during hospitalization and at home following discharge compared with unseparated mothers and infants. No evidence of vertical transmission was observed; one case of postnatal transmission occurred from an unmasked symptomatic mother who held her infant at birth. (Author)

20200819-163*

Management of mothers and neonates in low resources setting during covid-19 pandemia. Trevisanuto D, Weiner G, Lakshminrusimha S, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 30 June 2020, online

The coronavirus disease (COVID-19) epidemic started in the Hubei province of China, but is rapidly spreading all over the world. Much of the information and literature have been centered on the adult population while a few reports pertaining to COVID-19 and neonates have been published so far. Actual guidelines are based on expert opinion and show significant differences among the official neonatal societies around the world. Recommendations for the care of neonates born to suspected or confirmed COVD-19 positive mothers in low-resource settings are very limited. This perspective aims to provide practical support for the planning of delivery, resuscitating, stabilizing, and providing postnatal care to an infant born to a mother with suspected or confirmed COVID-19 in low-resource settings where resources for managing emergency situations are limited. (Author)

20200819-162*

Vertical transmission risk of SARS-CoV-2 infection in the third trimester: a systematic scoping review. Thomas P, Alexander PE, Ahmed U, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 1 July 2020, online
Available from: https://doi.org/10.1080/14767058.2020.1786055
Full URL: https://doi.org/10.1080/14767058.2020.1786055

Background: Studies on COVID-19 infection in pregnancy thus far have largely focused on characterizing maternal and neonatal clinical characteristics. However, another evolving focus is assessing and mitigating the risk of vertical transmission amongst COVID-19-positive mothers. The objective of this review was to summarize the current evidence on the vertical transmission potential of COVID-19 infection in the third trimester and its effects on the neonate.
Methods: OVID MEDLINE, EMBASE, and Cochrane Central Register of Controlled Trial (CENTRAL) were searched from January 2020 to May 2020, with continuous surveillance.
Results: 18 studies met the inclusion criteria, consisting of 157 mothers and 160 neonates. The mean age of the pregnant patients was 30.8 years and the mean gestational period was 37 weeks and 1 d. Currently, there is currently no conclusive evidence to suggest that vertical transmission of SARS-CoV-2 occurs. Amongst 81 (69%) neonates who were tested for SARS-CoV-2, 5 (6%) had a positive result. However, amongst these 5 neonates, the earliest test was performed at 16 h after birth, and only 1 neonate was positive when they were later re-tested. However, this neonate initially tested negative at birth, suggesting that the SARS-CoV-2 infection was likely hospital-acquired rather than vertically transmitted. 13 (8%) neonates had complications or symptoms.
Conclusions: The findings of this rapid descriptive review based on early clinical evidence suggest that vertical transmission of SARS-CoV-2 from mother to neonate/newborn did not occur. Future studies are needed to determine the optimal management of neonates born to COVID-19-positive mothers. (Author)

20200819-147*

Pregnancy and COVID-19: a systematic review of maternal, obstetric and neonatal outcomes. Trocado V, Silvestre-Machado J, Azevedo L, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 7 July 2020, online
Available from: https://doi.org/10.1080/14767058.2020.1781809
Full URL: https://doi.org/10.1080/14767058.2020.1781809

Background
There is limited information related to COVID-19 in pregnancy.
Objectives
Evaluate the impact of COVID-19 during pregnancy.
Search strategy: Searches were systematically carried out in PubMed, Scopus database and WHO database.
Selection criteria: Studies with information related to the effects of COVID-19 in pregnancy, concerning maternal, obstetric, and neonatal outcomes were included.
Data collection and analysis: Data were extracted for systematic review following PRISMA guidelines. CARE and STROBE were used to evaluate the quality of data.
Main Results: A total of 8 studies involving 95 pregnant women and 51 neonates were included. Overall, the quality was considered good in four studies, moderate in three and poor in one. Among pregnant women, 26% had a history of epidemiological exposure to SARS-CoV-2. The most common symptoms presented were fever (55%), cough (38%) and fatigue (11%). In 50 deliveries, 94% were cesarean sections and 35% were preterm births. Of the 51 neonates, 20% had low birth weight and 1 tested positive for Sars-CoV-2. There was 1 neonatal death, not related to the viral infection, and no cases of severe neonatal asphyxia.
Conclusions
The information compiled in this systematic review may help healthcare providers administer the best possible care. (Author)

20200819-132*

SARS-CoV-2 is not present in the vaginal fluid of pregnant women with COVID-19. Aslan MM, Yuvacı HU, Köse O, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 16 July 2020, online

Background

Data concerning the presence of SARS-CoV-2 in the female genital system is scarce; however, this information is important for understanding whether the virus can transmit sexually or from mother to child. The aim of this study was to investigate whether pregnant women with COVID-19 have virus in their lower genital tract.

Methods

In this cross-sectional study, we present an analysis of prospectively gathered data collected at a single tertiary university hospital from 19 April to 19 May 2020. We included 13 pregnant women hospitalized with suspected COVID-19. Results of laboratory tests, imaging tests, and nucleic acid tests on vaginal swabs for SARS-CoV-2 were also analyzed for pregnant women with a clinical diagnosis of COVID-19.

Results

Twelve pregnant women with confirmed COVID-19 were included in this study. Mean age was 32 ± 7.9 years. All patients had mild symptoms and were followed in the maternity ward, with none of them needing critical care unit follow-up. All lower genital tract samples were negative for SARS-CoV-2.

Conclusion

We demonstrated that SARS-CoV-2 was not present in the vaginal fluid of pregnant women. This finding may indicate that the female genital tract is not a route of SARS-CoV-2 transmission. (Author)

20200819-121*

Vertical transmission of SARS CoV-2: a systematic review. Deniz M, Tezer H (2020), The Journal of Maternal-Fetal and Neonatal Medicine 21 July 2020, online

Objective

The aim of this study is to review the current evidence on the vertical transmission of SARS CoV-2.

Methods

Combination of the following keywords; COVID-19, SARS CoV-2, placenta, vertical transmission, intrauterine infection, breast milk were searched in databases.

Results

In the 50 studies included, 17 newborns testing positive for SARS CoV-2 by RT-PCR were reported. In three neonates, SARS-CoV-2 IgG and IgM levels were elevated. Eight placental tissues testing positive for the virus were reported. Three positive RT-PCR results of test of breast milk have been reported recently. One amniotic fluid testing positive was reported.

Conclusion

Possible vertical transmission of SARS CoV-2 has been observed in some studies currently. More RT-PCR tests on amniotic fluid, placenta, breast milk and cord blood are required. (Author)

20200819-117*

Perinatal management of SARS-CoV-2 infection in a level III University Hospital. Pissarra S, Rosário M, Moucho M, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 23 July 2020, online

Over the past 4 months, SARS-CoV-2 pandemic has spread all over the world. The lack of understanding of this pandemic epidemiological characteristics, clinical implications and long term consequences have raised concern among healthcare workers. Pregnant women and newborns are a particularly worrisome population since data referring to real infection impact in these patients are scarce and management controversial. We report on the perinatal management of the first consecutive ten mother-infant dyads of SARS-CoV-2 infection complicated

pregnancy. All mothers were included in newborn management planning prior to delivery and decided on separation from their newborns; nine decided on postponing breastfeeding until SARS-CoV-2 negativity while maintaining lactation stimulation. No evidence of vertical transmission was found (all NP swab and bronchial secretions SARS-CoV-2 RT-PCR were negative). No newborn developed clinical evidence of infection. In the face of current scientific uncertainty, decisions of perinatal management, such as mother-infant separation and breastfeeding, must involve parents in a process of shared decision making. (Author)

20200819-116*

Perinatal transmission with SARS-CoV-2 and route of pregnancy termination: a narrative review. Gracia PVG, Luo C, Malpassi RE (2020), The Journal of Maternal-Fetal and Neonatal Medicine 26 July 2020, online

Objective
Analyze newborns diagnosed with SARS-CoV-2 performed with RT-PCR at birth or during the first days of birth and to look for an association with the route of birth.
Methods
We conducted a comprehensive literature search for newborns diagnosed with COVID-19 using PubMed, LILACS and Google scholar until May 15, 2020, looking for published articles with pregnancy, vertical transmission, intrauterine transmission, neonates, delivery.
Results
There were found 10 articles with a total of 15 newborn infected with SARS-CoV-2 according to positive PCR at birth or in the first days of birth. Eleven newborn birth by cesarean section and 4 vaginally. Of the 11 cases with cesarean section, two presented premature rupture of the membranes. Seven newborns developed pneumonia, of which two had ruptured membranes and one was born by vaginal delivery.
Conclusion
This review shows that there is perinatal or neonatal infection with SARS-CoV-2 by finding a positive PCR in the first days of birth. In addition, that there is more possibility of neonatal infection if the birth is vaginal or if there is premature rupture of the membranes before cesarean section. Vaginal delivery and premature rupture of membranes should be considered as risk factors for perinatal infection. (Author)

20200819-102*

Novel coronavirus infection and Kawasaki disease. Bitsadze VO, Grigoreva K, Khizroeva JKH, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine 30 July 2020, online

There is a global problem of increment of the number of children with clinical features that mimic Kawasaki Disease (KD) during the ongoing Coronavirus Disease 2019 (COVID-19) pandemic. The disease was first reported by Tomisaku Kawasaki, a Japanese pediatrician, in a four-year-old child with a rash and fever at the Red Cross Hospital in Tokyo in January 1961. Now Kawasaki disease is recognized worldwide. The complexity of symptoms was defined as an «acute febrile mucocutaneous lymphnode syndrome'. At the moment, it is still unclear whether the coronavirus itself can lead to development of mucocutaneous lymph node syndrome. However, it is believed that COVID-19 virus infection worsens the course of Kawasaki disease, and in some cases, children affected by SARS-V-2 may develop a disease that has a clinical picture similar to Kawasaki disease. (Author)

20200817-47*

Outcome of universal screening of neonates for COVID-19 from asymptomatic mothers. McDevitt KEM, Ganjoo N, Mlangeni D, et al (2020), Journal of Infection vol 81, no 3, September 2020, pp 452-482
Available from: https://doi.org/10.1016/j.jinf.2020.06.037
Full URL: https://doi.org/10.1016/j.jinf.2020.06.037

Correspondence reporting on the results of a universal screening programme of asymptomatic and healthy mothers together with their newborns. (MB)

20200817-34*

Promoting attachment between parents and neonates despite the COVID-19 pandemic. Tscherning C, Sizun J, Kuhn P (2020), Acta Paediatrica vol 109, no 10, October 2020, pp 1937-1943
Available from: https://doi.org/10.1111/apa.15455
Full URL: https://doi.org/10.1111/apa.15455

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. We 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. (Author)

20200817-29*

Multicentre Spanish study found no incidences of viral transmission in infants born to mothers with COVID-19. Gabriel MAM, Cuadrado I, Fernández BÁ, et al (2020), Acta Paediatrica vol 109, no 11, November 2020, pp 2302-2308
Available from: https://doi.org/10.1111/apa.15474
Full URL: https://doi.org/10.1111/apa.15474

Aim
Our aim was to describe the clinical features of mothers infected with COVID-19 and examine any potential vertical mother to newborn transmission. We also assessed how effective the discharge recommendations were in preventing transmission during the first month of life.
Methods
This multicentre descriptive study involved 16 Spanish hospitals. We reviewed the medical records of 42 pregnant women diagnosed with COVID-19 from March 13, 2020, to March 29, 2020, when they were in their third trimester of pregnancy. They and their newborn infants were monitored until the infant was 1 month old.
Results
Over half (52.4%) of the women had a vaginal delivery. The initial clinical symptoms were coughing (66.6%) and fever (59.5%), and one mother died due to thrombo-embolic events. We admitted 37 newborn infants to the neonatal unit (88%), and 28 were then admitted to intermediate care for organisational virus-related reasons. No infants died, and no vertical transmission was detected during hospitalisation or follow-up. Only six were exclusively breastfed at discharge.
Conclusion
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. (Author)

20200814-2*

Skin-to-Skin Contact at Birth in the COVID-19 Era: In Need of Help!. Davanzo R, Merewood A, Manzoni P (2020), American Journal of Perinatology 9 August 2020, online

Available from: https://doi.org/10.1055/s-0040-1714255

Full URL: https://doi.org/10.1055/s-0040-1714255

Editorial on the challenges of implementing skin-to-skin care during the COVID-19 pandemic. Recommends that skin-to-skin contact should continue for all women and infants, as there is no evidence of increased risk of SARS-CoV-2 infection in the neonate and appropriate infection control measures can be followed. (LDO)

20200812-2*

Setting realistic goals for feeding infants when their mothers have suspected or confirmed COVID-19. Mosalli R, Paes B (2020), Acta Paediatrica vol 109, no 10, October 2020, pp 1934-1936

Available from: https://doi.org/10.1111/apa.15459

Full URL: https://doi.org/10.1111/apa.15459

Provides an overview of the existing evidence and guidelines on infant feeding during the COVID-19 pandemic. Explores infant feeding via breast milk, expressed breast milk, donor milk and infant formula when the mother tests positive or is awaiting results for SARS-CoV-2. Also explores infant feeding practices when the infant is separated from the mother and remains in the neonatal intensive care unit. (LDO)

20200812-10*

Detection of severe acute respiratory syndrome coronavirus 2 in placentas with pathology and vertical transmission. Zhang P, Heyman T, Salafia C, et al (2020), American Journal of Obstetrics & Gynecology MFM vol 2, no 4, suppl, November 2020, 100197

Available from: https://doi.org/10.1016/j.ajogmf.2020.100197

Full URL: https://doi.org/10.1016/j.ajogmf.2020.100197

Research letter presenting a study on placental pathology and SARS-CoV-2 viral particles within the placental tissue. Findings suggest that SARS-CoV-2 viral particles are uncommon in placentas from positive mothers at late gestation. (LDO)

20200811-25*

COVID-19 and Treg/Th17 imbalance: Potential relationship to pregnancy outcomes. Muyayalo KP, Huang DH, Zhao SJ, et al (2020), American Journal of Reproductive Immunology 14 July 2020, online

Available from: https://doi.org/10.1111/aji.13304

Full URL: https://doi.org/10.1111/aji.13304

Caused by a novel type of virus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), coronavirus disease 2019 (COVID-19) constitutes a global public health emergency. Pregnant women are considered to have a higher risk of severe morbidity and even mortality due to their susceptibility to respiratory pathogens and their particular immunologic state. Several studies assessing SARS-CoV-2 infection during pregnancy reported adverse pregnancy outcomes in patients with severe conditions, including spontaneous abortion, preterm labor, fetal distress, cesarean section, preterm birth, neonatal asphyxia, neonatal pneumonia, stillbirth, and neonatal death. However, whether these complications are causally related to SARS-CoV-2 infection is not clear. Here, we reviewed the scientific evidence supporting the contributing role of Treg/Th17 cell imbalance in the uncontrolled systemic inflammation characterizing severe cases of COVID-19. Based on the recognized harmful effects of these CD4+ T-cell subset imbalances in pregnancy, we speculated that SARS-CoV-2 infection might lead to adverse pregnancy outcomes through the deregulation of otherwise tightly regulated Treg/Th17 ratios, and to subsequent uncontrolled systemic

inflammation. Moreover, we discuss the possibility of vertical transmission of COVID-19 from infected mothers to their infants, which could also explain adverse perinatal outcomes. Rigorous monitoring of pregnancies and appropriate measures should be taken to prevent and treat early eventual maternal and perinatal complications. (Author)

20200810-24*

Breastfeeding, Human Milk Collection and Containers, and Human Milk Banking: Hot Topics During the COVID-19 Pandemic. Moro GE, Bertino E (2020), Journal of Human Lactation vol 36, no 4, November 2020, pp 604-608
Available from: https://doi.org/10.1177/0890334420934391
Full URL: https://doi.org/10.1177/0890334420934391

Provides an overview of the practical issues related to breastfeeding, human milk collection and human milk donation during the COVID-19 pandemic. Recommends that breastfeeding should be promoted whenever possible, human milk containers should be handled in the correct way to prevent SARS-CoV-2 contamination, strict control measures should be implemented in milk banks, and donor milk should be allocated to the smallest and most at risk premature infants. (LDO)

20200810-23*

A Call to Ensure Access to Human Milk for Vulnerable Infants During the COVID-19 Epidemic. Rigourd V, Lapillonne A (2020), Journal of Human Lactation vol 36, no 4, November 2020, pp 624-625
Available from: https://doi.org/10.1177/0890334420938036
Full URL: https://doi.org/10.1177/0890334420938036

Provides a brief overview of the challenges related to donor milk supply in France during the COVID-19 pandemic. Discusses the steps taken to overcome supply issues at a milk bank in Paris, including training collectors to safely collect donor milk at home, making the exclusion criteria for donors less restrictive, and launching a widespread awareness campaign across neonatal units and maternity wards. (LDO)

20200810-19*

Implications of the COVID-19 Pandemic Response for Breastfeeding, Maternal Caregiving Capacity and Infant Mental Health. Gribble K, Marinelli KA, Tomori C, et al (2020), Journal of Human Lactation vol 36, no 4, November 2020, pp 591-603
Available from: https://doi.org/10.1177/0890334420949514
Full URL: https://doi.org/10.1177/0890334420949514

Provides an overview of the current evidence on SARS-CoV-2 in infants and infant feeding, summarises national and international guidelines, describes the results of policies preventing skin to skin contact and draws comparisons to the HIV pandemic. (LDO)

20200810-17*

Isolation, childcare and shortage of support: The impact of Covid-19 on young women's mental health. Mason B (2020), Institute for Employment Studies 10 August 2020
Available from:
https://www.employment-studies.co.uk/news/isolation-childcare-and-shortage-support-impact-covid-19-young-women's-mental-health

In this, one of a series of blogs from the Insitute for Employment Studies looking at how Covid-19 and lockdown has affected young women's mental health, financial stability, and access to employment, Beth Mason talks to Georgie Whiteley, Research Lead at the Young Women's Trust (YWT) concerning issues around isolation, childcare and social support. (JSM)

20200810-16*

Protecting and Supporting the WHO International Code During COVID-19. Dodgson JE (2020), Journal of Human Lactation vol 36, no 3, August 2020, pp 387-389

Available from: https://doi.org/10.1177/0890334420939554

Full URL: https://doi.org/10.1177/0890334420939554

Editorial on upholding the International Code of Marketing Breast-milk Substitutes during the COVID-19 pandemic. The author encourages readers to be aware of the tenets of the code, intervene through advocacy efforts and make any unethical practices visible. (LDO)

20200807-8

Who is providing a safety net for babies and young children?. Morton A (2020), Journal of Health Visiting vol 8, no 7, July 2020, pp 276-278

With many health visitors in England redeployed during the early weeks of the pandemic, Alison Morton considers the consequences for children and families, as well as the health visitors intended to support them. (Author)

20200807-24

What do we know about COVID-19 in infants?. Gasibat Q (2020), Infant vol 16, no 4, July 2020, p 141

Correspondence piece providing a brief overview of current evidence on COVID-19 in infants. The author suggests that neonatal healthcare professionals should engage with up-to-date evidence as new data are constantly emerging. (LDO)

20200807-23

Minimising COVID-19 transmission risk during neonatal transport: a practical approach from ANTS. Walton S, Garnell S, Rattigan S, et al (2020), Infant vol 16, no 4, July 2020, pp 138-140

The Acute Neonatal Transfer Service of the East of England (ANTS) has been involved in the transfer of four suspected or confirmed neonatal SARS-CoV-2 (COVID-19) cases. Through this unique clinical experience and related educational activities, we have constructed additional practical recommendations aimed at minimising horizontal SARS-CoV-2 spread during neonatal transfer. Here we present these recommendations for consideration by neonatal transport teams and neonatal units managing neonatal COVID-19 transfers. (Author)

20200807-10

What will children's services look like in the future?. Hancock D (2020), Journal of Health Visiting vol 8, no 7, July 2020, pp 290-293

This year's Infant Mental Health Week coincided with the global coronavirus pandemic. This article highlights some of the themes and topics explored to try to make sense of the possible effects of COVID-19 on children's services. (Author)

20200805-61*

Babies in Lockdown: listening to parents to build back better. Executive summary. Best Beginnings, Home-Start UK, Parent-Infant Foundation (2020), London: Best Beginnings, Home-Start UK, Parent-Infant Foundation August 2020. 20 pages

Available from:

https://babiesinlockdown.files.wordpress.com/2020/08/babies_in_lockdown_executive_summary.pdf

Summarises the findings of a joint research report from charities Best Beginnings, Home Start UK and the Parent-Infant Foundation, drawing on the experiences of expectant and new parents, looking at the effect lockdown during the COVID-19 pandemic has had on the first months and years of their babies' development. (JSM)

20200805-46*

Babies in Lockdown: listening to parents to build back better. Best Beginnings, Home-Start UK, Parent-Infant Foundation (2020), London: Best Beginnings, Home-Start UK, and the Parent-Infant Foundation August 2020. 92 pages
Available from:
https://babiesinlockdown.files.wordpress.com/2020/08/babies-in-lockdown-main-report-final-version.pdf
Full URL:
https://babiesinlockdown.files.wordpress.com/2020/08/babies-in-lockdown-main-report-final-version.pdf

Joint research report from charities Best Beginnings, Home Start UK and the Parent-Infant Foundation, drawing on the experiences of expectant and new parents, looking at the effect lockdown during the COVID-19 pandemic has had on the first months and years of their babies' development. Reveals a great deal of variation in parents experiences, with some welcoming the extra time to spend with their families, while others, already at greater risk of poorer outcomes, such as those on lower incomes or from Black, Asian and Minority Ethnic backgrounds (BAME) have been hardest hit during the crisis. Includes the experiences of those working on the frontline while pregnant. (JSM)

20200804-8*

After COVID-19, a future for the world's children?. The WHO-UNICEF-Lancet Commissioners (2020), The Lancet 2 July 2020, online
Available from:
https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31481-1/fulltext?cid=DM68466&bid=78408290&utm_campaign=OP1007&utm_medium=email&utm_dgroup=20N18184&utm_acid=7788381&dgcid=OP1007&CMX_ID=0&utm_in=DM68466&utm_delid=DM68466

Discusses how COVID-19 is exacerbating many of the threats that already exist for children, such as climate change and the related crises of poverty, migration and malnutrition, but argues that recovery and adaptation to COVID-19 could result in a better world for children and future generations. (JSM)

20200804-6*

COVID-19 in children and young people. Felsenstein S, Hedrich CM (2020), The Lancet Rheumatology 29 June 2020, online
Available from: https://doi.org/10.1016/S2665-9913(20)30212-5
Full URL: https://doi.org/10.1016/S2665-9913(20)30212-5
Discusses the evidence around the asymptomatic and symptomatic course of COVID-19 in children and young people. (JSM)

20200804-58*

Perceptions of obstetricians and pediatricians about the risk of COVID-19 for pregnant women and newborns. Obeidat N, Saadeh R, Obeidat M, et al (2020), International Journal of Gynecology & Obstetrics vol 150, no 3, September 2020, pp 306-311
Available from: https://doi.org/10.1002/ijgo.13264
Full URL: https://doi.org/10.1002/ijgo.13264

Objective
To assess the perception of obstetricians and pediatricians about risks of COVID-19 on pregnant women and possible complications in newborns.
Methods
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. Descriptive statistics were used to represent numbers and percentages of participants' responses to survey items.
Results
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.
Conclusion
While evidence-based strategies to reduce the risks of COVID-19 in pregnant women and newborns are evolving, healthcare providers showed excellent knowledge of the infection and were vigilant regarding its complications for mothers and newborns. To ensure safe pregnancy, physicians must keep informed of developing guidance on best and safest prenatal and perinatal health services. Implementing local hospital policies and adequate training in infection control measures is strongly encouraged. (Author)

20200804-4*
Outcomes of Maternal-Newborn Dyads After Maternal SARS-CoV-2. Verma S, Bradshaw C, Auyeung NSF, et al (2020), Pediatrics 31 July 2020, online
Available from: https://doi.org/10.1542/peds.2020-005637
Full URL: https://doi.org/10.1542/peds.2020-005637
Background and Objectives: Infection with a novel coronavirus namely Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), has become a global pandemic. There is limited data describing the impact of SARS-CoV-2 infection on pregnant mothers and their newborns. The objective of this study is to describe characteristics and outcomes of maternalnewborn dyads with confirmed maternal SARS-CoV-2. Methods: This was a multicenter, observational, descriptive cohort study collecting data from charts of maternal-newborn dyads that delivered at four major New York City metropolitan area hospitals between March 1 and May 10, 2020 with maternal SARS-CoV-2 infection. Results: There were a total of 149 mothers with SARS-CoV-2 infection and 149 newborns analyzed (3 sets of twins; 3 stillbirths). Forty percent of these mothers were asymptomatic. Approximately 15% of symptomatic mothers required some form of respiratory support and 8% required intubation. Eighteen newborns (12%) were admitted to the intensive care unit. Fifteen (10%) were born preterm, and five (3%) required mechanical ventilation. Symptomatic mothers had more premature deliveries (16% vs 3%, P= 0.02) and their newborns were more likely to require intensive care (19% vs. 2%, P=0.001) than asymptomatic mothers. One newborn tested positive for SARS-CoV-2, which was considered a case of horizontal postnatal transmission. Conclusion: Although there was no distinct evidence of vertical transmission from mothers with SARS-CoV-2 to their newborns, we did observe perinatal morbidities among both mothers and newborns. Symptomatic mothers were more likely to experience premature delivery and their newborns to require intensive care. (Author)

20200804-3*

Multisystem inflammatory syndrome in children (MIS-C). Anon (2020), Elsevier Healthcare Hub 29 July 2020, online
Available from:
https://covid-19.elsevier.health/en-US/clinical-key/multisystem-inflammatory-syndrome-in-children-mis-c?campid=20N18184&utm_campaign=ckphy_awcovid-19healthcarehub_em_20N18184&mm=cima-thornhillk®=na∏=ckphy&utm_medium=em&utm_source=database&utm_content=awcovid-19healthcarehub&cid=DM68466&bid=78408290&utm_campaign=OP1007&utm_medium=email&utm_dgroup=20N18184&utm_acid=7788381&dgcid=OP1007&CMX_ID=0&utm_in=DM68466&utm_delid=DM68466#diagnosis

MIS-C (multisystem inflammatory syndrome in children) is a recently described clinical syndrome in children and adolescents, first recognized in temporal association with a high local prevalence of COVID-19. Subsequently, most reported cases have had laboratory evidence of recent infection with SARS-CoV-2, the virus that causes COVID-19. Characterized by persistent fever, laboratory markers of inflammation, and evidence of single or multiorgan dysfunction, including myocarditis. Abdominal pain (often severe) and diarrhea (which may be profuse) are common presenting symptoms.
May include features suggestive of Kawasaki syndrome (conjunctival and mucosal injection, rash, swelling of hands and feet, coronary artery dilation), or toxic shock syndrome (erythroderma, renal involvement, hypotension).
Some patients develop severe shock and require fluid resuscitation and hemodynamic support.
There is no specific diagnostic test; diagnosis is based on a constellation of clinical, laboratory, echocardiographic, and epidemiologic factors. Most patients have laboratory evidence of SARS-CoV-2 (polymerase chain reaction, antigen, or antibody).
Patients with mild disease can be managed conservatively. Treat patients who have more severe disease, including those with myocarditis or who meet criteria for Kawasaki disease or toxic shock syndrome, with IV immunoglobulin. Corticosteroids and immune modulators also have been used.
Most patients have responded promptly to therapy and have done well. Owing to resemblance to Kawasaki syndrome and observation of coronary artery aneurysms in some patients with MIS-C, serial follow-up echocardiography is recommended. (Author, edited)

20200803-2*

Caring for Women Who Are Planning a Pregnancy, Pregnant, or Postpartum During the COVID-19 Pandemic. Rasmussen SA, Jamieson DJ (2020), JAMA (Journal of the American Medical Association) vol 324, no 2, 14 July 2020, pp 190-191
Available from: https://doi.org/10.1001/jama.2020.8883
Full URL: https://doi.org/10.1001/jama.2020.8883
Discusses the effects of COVID-19 on pregnancy and the risk of intrauterine transmission to the neonate. Provides an overview of guidelines from the Centers for Disease Control and Prevention (CDC) and other organisations, including the use of early epidural analgesia, adequate hygiene and face masks when breastfeeding, and the temporary separation of mothers and newborns. (LDO)

20200803-15

Infant feeding: the Covid effect. Entwistle F (2020), Community Practitioner vol 93, no 4, July/August 2020, pp 48-
The pandemic has caused breastfeeding support in some areas of the UK to be stripped back to the bare minimum, writes Francesca Entwistle of the Unicef UK Baby Friendly Initiative. But it's still crucial for infant health. (Author)

20200729-5*

Pregnancy, Birth, and Breastfeeding with Covid-19. Smith CK (2020), Midwifery Today no 134, Summer 2020
Provides an overview of existing guidelines on pregnancy, labour, the postpartum period and breastfeeding during the COVID-19 pandemic. Includes guidelines from the Center for Disease Control and Prevention (CDC) and the

American College of Obstetricians and Gynecologists (ACOG). (LDO)

20200729-1*

COVID-19: paediatric surveillance [Last updated 28 July 2020]. Public Health England (2020), London: PHE 27 April 2020
Available from: https://www.gov.uk/guidance/covid-19-paediatric-surveillance
Full URL: https://www.gov.uk/guidance/covid-19-paediatric-surveillance

Description and contact details of PHE paediatric surveillance programmes for COVID-19. (Publisher)

20200728-21*

Optimising maternity services and maternal and newborn outcomes in a pandemic. A rapid analytic scoping review. Conducted for the Royal College of Midwives by the RCM Professional Advisory Group [Version 4]. Renfrew MJ, Cheyne H, Hunter B, et al (2020), London: RCM 8 April 2020. 21 pages
Available from:
https://www.rcm.org.uk/media/3869/rapid-review-optimising-maternity-services-for-rcm-v4-8-april.pdf
Full URL: https://www.rcm.org.uk/media/3869/rapid-review-optimising-maternity-services-for-rcm-v4-8-april.pdf

Childbearing women and newborn infants continue to require care during the current COVID-19 pandemic. When staff and services are under extreme stress there is a real risk of increasing avoidable harm, including an increased risk of infection and reductions in the overall quality of care. Safety, quality, and avoiding harm must be key priorities in decision-making.

Review questions

Three related review questions were addressed. All considered safety, quality and minimising avoidable harm in the provision of midwifery services:

1. What is the evidence on the impact of community care vs centralisation of care during pandemics, for childbearing women, newborn infants, families, staff, and resources?

2. How to optimise availability of midwifery expertise when staffing becomes heavily affected by the midwifery workforce being off sick, self-isolating, fear of pandemic or other major unavoidable events?

3. What is the evidence on viral load of SARS-COV-2 in domestic settings and hospitals, relevant to informing the safety of community and hospital settings for health professionals? (Author)

20200727-9*

Histological characterization of placenta in COVID19 pregnant women. Cribiù FM, Croci GA, Del Gobbo A, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 252, September 2020, pp 619-621
Available from: https://doi.org/10.1016/j.ejogrb.2020.06.041
Full URL: https://doi.org/10.1016/j.ejogrb.2020.06.041

Correspondence piece discussing histological alterations in placentas from pregnant women with SARS-CoV-2 infection. Distal villous hypoplasia was detectable in 22% of cases, delayed villous maturation was shown in 55% of cases and no significant T- and B-cell infiltrate was observed in any of the cases. (LDO)

20200727-71*

Novel coronavirus in a 15-day-old neonate with clinical signs of sepsis, a case report. Aghdam MK, Jafari N, Eftekhari K (2020), Infectious Diseases vol 52, no 6, June 2020, pp 427-429

Available from: https://doi.org/10.1080/23744235.2020.1747634

Full URL: https://doi.org/10.1080/23744235.2020.1747634

Introduction: Novel coronavirus or coronavirus disease (COVID-19) can affect all age groups. The clinical course of the disease in children and infants is milder than in adults. It should be noted that, although typical symptoms may be present in children, non-specific symptoms could be noted in the neonate. The disease is rare in the neonate, so, its suspicion in this group can help to make a quick diagnose.Case report: A 15-day-old neonate was admitted with fever, lethargy, cutaneous mottling, and respiratory distress without cough. His mother had symptoms of Novel coronavirus. So Reverse-Transcription Polymerase Chain Reaction (RT-PCR) assay was done for the neonate and showed to be positive. The newborn was isolated and subjected to supportive care. Antibiotic and antiviral treatment was initiated. Eventually, the baby was discharged in good general condition.Conclusion: When a newborn presents with non-specific symptoms of infection with an added history of COVID-19 in his/her parents, it indicates the need for PCR testing for Novel coronavirus. (Author)

20200727-47*

Maternal COVID-19 infection, clinical characteristics, pregnancy, and neonatal outcome A prospective cohort study. Antoun L, Taweel NE, Ahmed I, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 252, September 2020, pp 559-562

Available from: https://doi.org/10.1016/j.ejogrb.2020.07.008

Full URL: https://doi.org/10.1016/j.ejogrb.2020.07.008

Objective

To study the effect of COVID-19 on pregnancy and neonatal outcomes.

Study design

Prospective cohort study in a large tertiary maternity unit within a university hospital with an average annual birth of over 10,000 births. We prospectively collected and analysed data for a cohort of 23 pregnant patients including singleton and multiple pregnancies tested positive for COVID-19 between February 2020 and April 2020 inclusive to assess the effect of COVID-19 on pregnancy, and neonatal outcomes.

Results

Twenty-three pregnant patients tested positive for COVID-19, delivering 20 babies including a set of twins, with four ongoing pregnancies at the time of manuscript submission. 16/23 (70%) whom tested positive were patients from Asian (Indian sub-continent) background. The severity of the symptoms ranged from mild in 13/23 (65.2%) of the patients, moderate in 2/23 (8.7%), and severe in 8/23 (34.8%). Four out of total 23 COVID-19 pregnant patients (17.4%) developed severe adult respiratory distress syndrome complications requiring ICU support, one of whom led to maternal death 1/23 (4.3%). 11/23 (48%) of the patients had pre-existing co-morbidities, with morbid obesity 5/23 (21.7%) and diabetes 4/23 (17.4%) being the more commonly represented. Of the 23 pregnant patients 19 were in their third trimester of pregnancy and delivered; 7/19 (36.8%) had preterm birth, 3/19 (15.8%) developed adult respiratory distress syndrome before delivery, and 2/19 (10.5%) had pre-eclampsia. 16/19 (84%) of patients delivered by C-section. Out of the 20 new-borns, 18 were singletons with a set of twin.

Conclusion

COVID-19 is associated with high prevalence of preterm birth, preeclampsia, and caesarean section compared to non-COVID pregnancies. COVID-19 infection was not found in the newborns and none developed severe neonatal complications. (Author)

20200727-46*

COVID-19 in pregnant women: A systematic review and meta-analysis. Capobianco G, Saderi L, Aliberti S, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 252, September 2020, pp 543-558

Available from: https://doi.org/10.1016/j.ejogrb.2020.07.006

Full URL: https://doi.org/10.1016/j.ejogrb.2020.07.006

Objective

Coronavirus disease 2019 (COVID-19) is a novel infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Several reports highlighted the risk of infection and disease in pregnant women and neonates. To assess the risk of clinical complications in pregnant women and neonates infected with SARS-CoV-2 carrying out a systematic review and meta-analysis of observational studies.

Data sources

Search of the scientific evidence was performed using the engines PubMed and Scopus, including articles published from December 2019 to 15 April 2020.

Study eligibility criteria

Only observational studies focused on the assessment of clinical outcomes associated with pregnancy in COVID-19 women were selected.

Study appraisal and synthesis methods

The first screening was based on the assessment of titles and abstracts, followed by the evaluation of full-texts. Qualitative variables were summarized with frequencies, whereas quantitative variables with central and variability indicators depending on their parametric distribution. Forest plots were used to describe point estimates and in-between studies variability. Study quality assessment was performed.

Results

Thirteen studies were selected. All of them were carried out in China. The mean (SD) age and gestational age of pregnant women were 30.3 (1.5) years and 35.9 (2.9) weeks, respectively. The mean (SD) duration from the first symptoms to the hospital admission and to labour were 5.5 (2.0) and 9.5 (8.7) days, respectively. Patients mainly complained of fever and cough (pooled (95 % CI) proportions were 76.0 % (57.0 %-90.0 %) and 38.0 (28.0 %-47.0 %), respectively). Several antibiotics, antivirals, and corticosteroids were prescribed in different combinations. The pooled prevalence of maternal complications and of caesarean section were 45.0 % (95 % CI: 24.0 %-67.0 %) and 88.0 % (95 %CI: 82.0 %-94.0 %). A proportion of pregnant women less than 20 % were admitted to ICU. The pooled proportion of preterm infants was 23.0 % (95 %CI: 11.0 %-39.0 %). The most frequent neonatal complications were pneumonia and respiratory distress syndrome. The pooled percentage of infected neonates was 6.0 % (95 %CI: 2.0 %-12.0 %).

Conclusions

The present study suggests a high rate of maternal and neonatal complications in infected individuals. However, the current scientific evidence highlights a low risk of neonatal infection. Multicentre, cohort studies are needed to better elucidate the role of SARS-CoV-2 during pregnancy. (Author)

20200727-42*

Maternal and neonatal characteristics and outcomes among COVID-19 infected women: An updated systematic review and meta-analysis. Dubey P, Reddy S, Manuel S, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 252, September 2020, pp 490-501

Available from: https://doi.org/10.1016/j.ejogrb.2020.07.034

Full URL: https://doi.org/10.1016/j.ejogrb.2020.07.034

Objective

Coronavirus disease 2019 (COVID-19) has become a global pandemic and may adversely affect pregnancy outcomes. We estimated the adverse maternal and neonatal characteristics and outcomes among COVID-19 infected women and determined heterogeneity in the estimates and associated factors.

Study Designs
PubMed search was performed of confirmed COVID-19 pregnant cases and related outcomes were ascertained prior to July 8, 2020, in this systematic review and meta-analysis. Studies reporting premature birth, low birth weight, COVID-19 infection in neonates, or mode of delivery status were included in the study. Two investigators independently performed searches, assessed quality of eligible studies as per the Cochrane handbook recommendations, extracted and reported data according to PRISMA guidelines. Pooled proportions of maternal and neonatal outcomes were estimated using meta-analyses for studies with varying sample sizes while a systematic review with descriptive data analysis was performed for case report studies. Maternal and neonatal outcomes included C-section, premature birth, low birth weight, adverse pregnancy events and COVID transmission in neonates.
Results
A total of 790 COVID-19 positive females and 548 neonates from 61 studies were analyzed. The rates of C-section, premature birth, low birth weight, and adverse pregnancy events were estimated as 72 %, 23 %, 7 %, and 27 % respectively. In the heterogeneity analysis, the rate of C-section was substantially higher in Chinese studies (91 %) compared to the US (40 %) or European (38 %) studies. The rates of preterm birth and adverse pregnancy events were also lowest in the US studies (12 %, 15 %) compared to Chinese (17 %, 21 %), and European studies (19 %, 19 %). In case reports, the rates of C-section, preterm birth, and low birth weight were estimated as 69 %, 56 %, and 35 %, respectively. Adverse pregnancy outcomes were associated with infection acquired at early gestational ages, more symptomatic presentation, myalgia symptom at presentation, and use of oxygen support therapy.
Conclusions
Adverse pregnancy outcomes were prevalent in COVID-19 infected females and varied by location, type, and size of the studies. Regular screening and early detection of COVID-19 in pregnant women may provide more favorable outcomes. (Author)

20200727-11*
Maternal transmission of SARS-COV-2 to the neonate, and possible routes for such transmission: a systematic review and critical analysis. Walker KF, O'Donoghue K, Grace N, et al (2020), BJOG: An International Journal of Obstetrics and Gynaecology vol 127, no 11, October 2020, pp 1324-1336
Available from: https://doi.org/10.1111/1471-0528.16362
Full URL: https://doi.org/10.1111/1471-0528.16362
Background
Early reports of COVID-19 in pregnancy described management by caesarean, strict isolation of the neonate and formula feeding. Is this practice justified?
Objective
To estimate the risk of the neonate becoming infected with SARS-CoV-2 by mode of delivery, type of infant feeding and mother-infant interaction.
Search strategy
Two biomedical databases were searched between September 2019 and June 2020.
Selection criteria
Case reports or case series of pregnant women with confirmed COVID-19, where neonatal outcomes were reported.
Data collection and analysis
Data were extracted on mode of delivery, infant infection status, infant feeding and mother-infant interaction. For reported infant infection, a critical analysis was performed to evaluate the likelihood of vertical transmission.
Main results
Forty nine studies included information on mode of delivery and infant infection status for 655 women and 666 neonates. In all, 28/666 (4%) tested positive postnatally. Of babies born vaginally, 8/292 (2.7%) tested positivecompared with 20/374 (5.3%) born by Caesarean. Information on feeding and baby separation were often

missing, but of reported breastfed babies 7/148 (4.7%) tested positive compared with 3/56 (5.3%) for reported formula fed ones. Of babies reported as nursed with their mother 4/107 (3.7%) tested positive, compared with 6/46 (13%) for those who were reported as isolated.
Conclusions
Neonatal COVID-19 infection is uncommon, rarely symptomatic, and the rate of infection is no greater when the baby is born vaginally, breastfed or remains with the mother.
Tweetable abstract
Risk of neonatal infection with COVID-19 by delivery route, infant feeding and mother-baby interaction. (Author)

20200724-4*

COVID-19: minimising contaminated aerosol spreading during CPAP treatment. Donaldsson S, Naver L, Jonsson B, et al (2020), Archives of Disease in Childhood: Fetal and Neonatal Edition vol 105, no 6, November 2020, pp 669-671
Available from: http://dx.doi.org/10.1136/archdischild-2020-319431
Full URL: http://dx.doi.org/10.1136/archdischild-2020-319431

Background The COVID-19 pandemic has raised concern for healthcare workers getting infected via aerosol from non-invasive respiratory support of infants. Attaching filters that remove viral particles in air from the expiratory limb of continuous positive airway pressure (CPAP) devices should theoretically decrease the risk. However, adding filters to the expiratory limb could add to expiratory resistance and thereby increase the imposed work of breathing (WOB).
Objective To evaluate the effects on imposed WOB when attaching filters to the expiratory limb of CPAP devices.
Methods Two filters were tested on three CPAP systems at two levels of CPAP in a mechanical lung model. Main outcome was imposed WOB.
Results There was a minor increase in imposed WOB when attaching the filters. The differences between the two filters were small.
Conclusion To minimise contaminated aerosol generation during CPAP treatment, filters can be attached to expiratory tubing with only a minimal increase in imposed WOB in a non-humidified environment. Care has to be taken to avoid filter obstruction and replace filters as recommended.

20200724-2*

Neonatal management and outcomes during the COVID-19 pandemic: an observation cohort study. Salvatore CM, Han J-Y, Acker KP, et al (2020), The Lancet Child & Adolescent Health vol 4, no 10, October 2020, pp 721-727
Available from: https://doi.org/10.1016/S2352-4642(20)30235-2
Full URL: https://doi.org/10.1016/S2352-4642(20)30235-2

Background
The risk of vertical and perinatal transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2, which causes COVID-19), the most appropriate management, and the neonate's risk of developing COVID-19 during the perinatal period are unknown. Therefore, we aimed to elucidate best practices regarding infection control in mother-newborn dyads, and identify potential risk factors associated with transmission.
Methods
In this observational cohort study, we identified all neonates born between March 22 and May 17, 2020, at three New York Presbyterian Hospitals in New York City (NY, USA) to mothers positive for SARS-CoV-2 at delivery. 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. Unless medically required, neonates were kept in a closed Giraffe isolette in the same room as their mothers, and were held by mothers for feeding after appropriate hand hygiene, breast cleansing, and placement of a surgical mask. Neonates were tested for SARS-CoV-2 by use of real-time PCR on nasopharyngeal swabs taken at 24 h, 5-7 days, and 14 days of life, and were clinically evaluated by telemedicine at 1 month of age. We recorded demographics, neonatal, and maternal clinical presentation, as well as infection control practices in the hospital and at home.
Findings
Of 1481 deliveries, 116 (8%) mothers tested positive for SARS-CoV-2; 120 neonates were identified. All neonates were tested at 24 h of life and none were positive for SARS-CoV-2. 82 (68%) neonates completed follow-up at day 5-7 of life. Of the 82 neonates, 68 (83%) roomed in with the mothers. All mothers were allowed to breastfeed; at 5-7 days of life, 64 (78%) were still breastfeeding. 79 (96%) of 82 neonates had a repeat PCR at 5-7 days of life, which was negative in all; 72 (88%) neonates were also tested at 14 days of life and none were positive. None of the neonates had symptoms of COVID-19.
Interpretation
Our data suggest 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.
Funding
None. (Author)

20200724-1*
Coronavirus: Mothers 'unlikely to infect newborns'. Anon (2020), BBC News 24 July 2020
Available from: https://www.bbc.co.uk/news/health-53514003
Full URL: https://www.bbc.co.uk/news/health-53514003
Women who have COVID-19 are unlikely to pass on the infection to their babies during childbirth if precautions are in place, a small study suggests (1).
1. Salvatore CM et al. Neonatal management and outcomes during the COVID-19 pandemic: an observation cohort study. The Lancet Child & Adolescent Health, 23 July 2020, online. (Author, edited)

20200723-72*
Pregnancy and breastfeeding during COVID-19 pandemic: A systematic review of published pregnancy cases.
Rodrigues C, Baia I, Domingues R, et al (2020), MedRxiv 5 May 2020
Available from: https://doi.org/10.1101/2020.04.25.20079509
Full URL: https://doi.org/10.1101/2020.04.25.20079509
Background: The COVID-19 pandemic is an emerging concern regarding the potential adverse effects during pregnancy. This study reviews knowledge on the impact of COVID-19 on pregnancy and describes the outcome of published cases of pregnant women diagnosed with COVID-19. Methods: Searches were conducted in PubMed up to 8 April 2020, using PRISMA standards, to identify original published studies describing pregnant women at any gestational age diagnosed COVID-19. There were no date or language restrictions on the search. All identified studies were included irrespective of assumptions on study quality. Results: We identified 30 original studies reporting 212 cases of pregnant women with COVID-19 (30 discharged while pregnant), 200 from China and 12 from other countries. The 182 published deliveries resulted in one stillbirth and 185 live births. Four women with severe COVID-19 required admission to an intensive care unit but no cases of maternal death were reported. There was one neonatal death. Preterm births occurred in 28.7% of cases, but it is unclear whether this was iatrogenic. All cases with amniotic fluid, placenta, and/or cord blood analyzed for the SARS-CoV-2 virus were negative. Four newborns were positive for SARS-CoV-2 and three newborns had high levels of IgM antibodies. Breast milk samples from 13 mothers and

described in seven studies showed no evidence of SARS-CoV-2. Conclusion: The evidence related to the effect of COVID-19 on pregnant women is still limited. Pregnant women and newborns should be considered particularly vulnerable populations regarding COVID-19 prevention and management strategies. (Author)
NB: This article is a preprint and has not been peer-reviewed. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.

20200722-89*
Maintaining certainty in the most uncertain of times. Dethier D, Abernathy A (2020), Birth vol 47, no 3, September 2020, pp 257-258
Available from: https://doi.org/10.1111/birt.12496
Full URL: https://doi.org/10.1111/birt.12496
Personal experience of a physician caring for a mother in the early postnatal period during the COVID-19 pandemic. Discusses the disproportionate effect of the virus on marginalised women, universal testing at admission to the labour and delivery ward, and the separation of the mother and newborn after birth. (LDO)

20200722-7*
Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with COVID-19: What Do We Know?. Barron SA, Marshall HD (2020), EBSCO Health Notes 15 June 2020, online
Available from: https://bit.ly/3eJXloA

A scary new facet of COVID-19 in children is starting to emerge. Here's what we know about multisystem inflammatory syndrome in children (MIS-C). (Author)

20200722-41*
Simulations of Deliveries of SARS-CoV-2 Positive Pregnant Women and Their Newborn Babies: Plan to Implement a Complex and Ever-Changing Protocol. Rastogi S (2020), American Journal of Perinatology vol 37, no 10, August 2020, pp 1061-1065
Available from: https://doi.org/10.1055/s-0040-1713602
Management of severe acute respiratory Syndrome corona virus-2 (SARS-CoV-2) infected pregnant women at time of delivery presents a unique challenge. The variability in the timing and the method of delivery, ranging from normal vaginal delivery to an emergent cesarean section, adds complexity to the role of the health care providers in the medical care of the patient and in the interactions, they have with other providers. These variations are further influenced by the availability of isolation rooms in the facility and adequacy of personal protective equipment. The protocols already set in place can be further challenged when the facility reaches its capacity to manage the patients. To fulfill the goal of providing adequate management to the SARS-CoV-2 infected pregnant women and their infants, avoid variation from suggested guidelines, and decrease risk of exposure of the health care workers, the health care provider team needs to review the variations regularly. While familiarity can be achieved by reviewing the guidelines, clinical case simulations provide a more hands-on approach.
Using case-based simulations and current guidance from the Center for Disease Control, American Academy of Pediatrics, and recent reviews, we discuss a management guideline developed at our institution to facilitate provision of care to SARS-CoV-2 infected pregnant women during delivery and to their infants, while protecting health care providers from exposure, and in keeping with the local facility logistics. (Author)

20200722-38*

Clinical Implications of SARS-CoV-2 Infection in the Viable Preterm Period. Gulersen M, Blitz MJ, Rochelson B, et al (2020), American Journal of Perinatology vol 37, no 11, September 2020, pp 1077-1083

Available from: https://doi.org/10.1055/s-0040-1713851

Full URL: https://doi.org/10.1055/s-0040-1713851

Objective This study aimed to determine the rate of preterm birth (PTB) during hospitalization among women diagnosed with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) between 23 and 37 weeks of gestation and whether this rate differs by gestational age at diagnosis of infection.

Study Design Retrospective, cross-sectional study of all women diagnosed with SARS-CoV-2 infection between 23 and 37 weeks of gestation within a large integrated health system from March 13 to April 24, 2020. Cases with severe fetal structural malformations detected prior to infection were excluded. Women were stratified into two groups based on gestational age at diagnosis: early preterm (230/7 to 336/7 weeks) versus late preterm (34 to 366/7 weeks). We compared the rate of PTB during hospitalization with infection between the two groups. Statistical analysis included use of Wilcoxon rank sum and Fisher exact tests, as well as a multivariable logistic regression. Statistical significance was defined as a p-value <0.05.

Results Of the 65 patients included, 36 (53.7%) were diagnosed in the early preterm period and 29 (46.3%) were diagnosed in the late preterm period. Baseline demographics were similar between groups. The rate of PTB during hospitalization with infection was significantly lower among women diagnosed in the early preterm period compared with late preterm (7/36 [19.4%] vs. 18/29 [62%], p-value = 0.001). Of the 25 patients who delivered during hospitalization with infection, the majority were indicated deliveries (64%, 16/25). There were no deliveries <33 weeks of gestation for worsening coronavirus disease 2019 and severity of disease did not alter the likelihood of delivery during hospitalization with SARS-CoV-2 infection (adjusted odds ratio [aOR]: 0.64; 95% confidence interval [CI]: 0.24-1.59). Increased maternal age was associated with a lower likelihood of delivery during hospitalization with SARS-CoV-2 infection (aOR: 0.77; 95% CI: 0.58-0.96), while later gestational age at diagnosis of infection was associated with a higher likelihood of delivery during hospitalization (aOR: 2.9; 95% CI: 1.67-8.09).

Conclusion The likelihood of PTB during hospitalization with SARS-CoV-2 infection is significantly lower among women diagnosed in the early preterm period compared with late preterm. Most women with SARS-CoV-2 infection in the early preterm period recovered and were discharged home. The majority of PTB were indicated and not due to spontaneous preterm labor. (Author)

20200722-18*

Incidence of SARS-CoV-2 vertical transmission: a meta-analysis. Goh XL, Low YF, Ng CH, et al (2021), Archives of Disease in Childhood: Fetal and Neonatal Edition vol 106, no 1, January 2021, pp 112-113

Available from: http://dx.doi.org/10.1136/archdischild-2020-319791

Full URL: http://dx.doi.org/10.1136/archdischild-2020-319791

Short meta-analysis of the incidence of vertical transmission of SARS-CoV-2 intrauterine or during delivery. The average pooled incidence of vertical transmission was 16 per 1000 newborns. Studies from larger and diverse populations are required to provide a more accurate estimation of the incidence of neonatal infection. (LDO)

20200722-17*

The Impact of COVID-19 Infection on Labor and Delivery, Newborn Nursery, and Neonatal Intensive Care Unit: Prospective Observational Data from a Single Hospital System. Griffin I, Benarba F, Peters C, et al (2020), American Journal of Perinatology vol 37, no 10, August 2020, pp 1022-1030

Available from: https://doi.org/10.1055/s-0040-1713416

Full URL: https://doi.org/10.1055/s-0040-1713416

Objective Since its emergence in late 2019, severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2), the

novel coronavirus that causes novel coronavirus disease 2019 (COVID-19), has spread globally. Within the United States, some of the most affected regions have been New York, and Northern New Jersey. Our objective is to describe the impact of COVID-19 in a large delivery service in Northern New Jersey, including its effects on labor and delivery (L&D), the newborn nursery, and the neonatal intensive care unit (NICU).
Materials and Methods Between April 21, 2020 and May 5, 2020, a total of 78 mothers (3.6% of deliveries) were identified by screening history or examination to either be COVID-19 positive or possible positives (persons under investigation). Of the mothers who were tested after admission to L&D, 28% tested positive for SARS-CoV-2.
Discussion Isolation between mother and infant was recommended in 62 cases, either because the mother was positive for SARS-CoV-2 or because the test was still pending. Fifty-four families (87%) agreed to isolation and separation. The majority of infants, 51 (94%), were initially isolated on the newborn nursery. Six needed NICU admission. No infants had clinical evidence of symptomatic COVID-19 infection. Fourteen infants whose mothers were positive for SARS-CoV-2, and who had been separated from the mother at birth were tested for SARS-CoV-2 postnatally. All were negative.
Results COVID-19 posed a significant burden to mothers, infants, and staff over the 5-week study period. The yield from screening mothers for COVID-19 on L&D was high. Most families accepted the need for postnatal isolation and separation of mother and newborn.
Conclusion Our study suggests that the transmission of SARS-CoV-2 from mother to her fetus/newborn seems to be uncommon if appropriate separation measures are performed at birth. (Author)

20200721-45*

Coronavirus disease 2019 in children: surprising findings in the midst of a global pandemic. Goldman RD (2020), Canadian Family Physician vol 66, no 5, May 2020, pp 332-334
Available from: https://www.cfp.ca/content/66/5/332

Full URL: https://www.cfp.ca/content/66/5/332

Question Coronavirus disease 2019 (COVID-19) is affecting millions of people worldwide. It seems that it affects mostly adults older than 40 years of age, and the death rate is highest for older individuals in the population. What should I tell parents worried about their children contracting the coronavirus (SARS-CoV-2) causing COVID-19, and what symptoms should I look for to determine if there is a need to test for the virus?
Answer The COVID-19 global pandemic affects all ages. Severe respiratory manifestations have been the mainstay of illness in adults, with what seems to be rapid deterioration necessitating mechanical ventilation. Only 5% of those tested and found to have COVID-19 have been younger than 19 years, possibly owing to limited testing, as the symptoms in children are usually mild. Symptoms in children include fever, dry cough, rhinorrhea, sore throat, and fatigue, and in 10% diarrhea or vomiting. Rarely dyspnea or hypoxemia were also described. Blood tests and imaging have been shown to be of little value in children and should only be ordered for those in whom you would normally order these investigations for viral-like illness. No specific therapy is available and supportive care with rest, fluids, and antipyretics for children is the recommended approach. Ibuprofen or acetaminophen for fever and pain can be given. Antiviral and immunomodulatory treatment is not recommended at this time for otherwise healthy children, and corticosteroids should also not be used. Children with immunocompromised states should be isolated and avoid contact with others. (Author)

20200720-16*

Perinatal COVID-19 Infection Prevention: Infographics for Patients and Providers. Lakshminrusimha S, Sridhar A, Herrera Guerra AA (2020), American Journal of Perinatology vol 37, no 12, October 2020, pp 1185-1188
Available from: https://doi.org/10.1055/s-0040-1714387
Full URL: https://doi.org/10.1055/s-0040-1714387

Editorial discussing the use of simple infographics rather than text guidelines to provide information to pregnant patients during the COVID-19 pandemic. The authors present two infographics on social distancing during pregnancy and the care of infants born to mothers with COVID-19. (LDO)

20200715-4*

Lactoferrin is an important factor when breastfeeding and COVID-19 are considered. Peroni DG, Fanos V (2020), Acta Paediatrica vol 109, no 10, October 2020, pp 2139-2140
Available from: https://doi.org/10.1111/apa.15417
Full URL: https://doi.org/10.1111/apa.15417

Brief report on the protective antiviral effects of lactoferrin in breast milk against COVID-19. Lactoferrin interacts with cell receptors to prevent viral anchoring, surface accumulation and cell entry. (LDO)

20200715-29*

Paediatric ethical issues during the COVID-19 pandemic are not just about ventilator triage. Haward MF, Moore GP, Lantos J, et al (2020), Acta Paediatrica vol 109, no 8, August 2020, pp 1519-1521
Available from: https://doi.org/10.1111/apa.15334
Full URL: https://doi.org/10.1111/apa.15334

Commentary on the ethics of redistributing ventilators away from extremely premature infants to critically ill adults during the COVID-19 pandemic. The authors also discuss the moral distress faced by clinicians over the shortage of resources and personal protective equipment. (LDO)

20200715-2*

Invasive mechanical ventilation in a former preterm infant with COVID-19. Nyholm S, Edner A, Myrelid Å, et al (2020), Acta Paediatrica vol 109, no 10, October 2020, pp 2141-2143
Available from: https://doi.org/10.1111/apa.15437
Full URL: https://doi.org/10.1111/apa.15437

Brief report on a set of preterm twins in Sweden with COVID-19 symptoms. The female twin tested negative and had mild respiratory symptoms whereas the male twin tested positive and required intensive care and invasive ventilatory support. Possible risk factors for severe COVID-19 in this case may have been repeated viral exposure, preterm birth, African descent and male gender. (LDO)

20200715-1*

Is the effect of COVID-19 on children underestimated in low- and middle- income countries?. Simba J, Sinha I, Mburugu P, et al (2020), Acta Paediatrica 18 June 2020, online
Available from: https://doi.org/10.1111/apa.15419
Full URL: https://doi.org/10.1111/apa.15419

Discusses the impact of COVID-19 on children and infants in sub-Saharan African countries such as Kenya. Children in low- and middle-income countries are at risk of developing severe acute respiratory infections as a result of malnutrition, immunodeficiency, variable housing quality, air pollution, poor health behaviour and barriers to affordable care. Children are further affected by school closures, education inequalities and the economic impact of the pandemic. (LDO)

20200714-71*

Navigating pregnancy during the coronavirus disease (COVID-19) pandemic. An expert midwife on how to best protect yourself and your baby. UNICEF (2020), UNICEF 11 May 2020

Available from:
https://www.unicef.org/coronavirus/navigating-pregnancy-during-coronavirus-disease-covid-19-pandemic
Full URL:
https://www.unicef.org/coronavirus/navigating-pregnancy-during-coronavirus-disease-covid-19-pandemic

Pregnancy is a special time full of excitement and anticipation. But for expectant mothers facing the outbreak of the coronavirus disease (COVID-19), fear, anxiety and uncertainty are clouding this otherwise happy time. To learn more about how women can protect themselves and their little one, we spoke with Franka Cadée, President of the International Confederation of Midwives. COVID-19 is a new virus and research into it is ongoing. We will update this article as new information becomes available. (Author)

20200714-65*

When separation is not the answer: breastfeeding mothers and infants affected by COVID-19. Tomoroi C, Gribble K, Palmquist AEL, et al (2020), Maternal and Child Nutrition 26 May 2020, online

Available from: https://onlinelibrary.wiley.com/doi/epdf/10.1111/mcn.13033
Full URL: https://onlinelibrary.wiley.com/doi/epdf/10.1111/mcn.13033

The World Health Organisation (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 (IPC) 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. Health services must consider the short-and-long-term impacts of separating mothers and infants in their policies. (Author)

20200714-5*

Maternal-fetal vertical SARS-CoV2 transmission cannot be dismissed. European Society for Human Reproduction and Embryology (ESHRE) (2020), European Society for Human Reproduction and Embryology 36th Annual Meeting 2020, 5-8 July 2020

Available from: https://www.focusonreproduction.eu/article/ESHRE-News-Annual-Meeting-2020-Bahadur
Full URL: https://www.focusonreproduction.eu/article/ESHRE-News-Annual-Meeting-2020-Bahadur

Summarises the results of a systematic review of 80 publications, which aimed to answer the question 'Is there vertical transmission (from woman to baby antenatally or intrapartum) after SARS-CoV-2 (COVID-19) infected pregnancy?' The findings from the review were presented at the virtual 36th Annual Meeting of the European Society for Human

Reproduction and Embryology (ESHRE) held between 5-8 July 2020, and suggest that vertical transmission is possible and therefore must not be dismissed. (JSM)

20200714-49*

Optimising mother-baby contact and infant feeding in a pandemic [Version 2]. Renfrew MJ, Cheyne H, Dykes F, et al (2020), RCM Professional Advisory Group 24 June 2020. 47 pages

Available from:
https://www.rcm.org.uk/media/4142/optimising-mother-baby-contact-and-infant-feeding-in-a-pandemic-version-2-final-24th-june-2020.pdf

Optimising close, ongoing contact between mothers and newborn infants and enabling women to breastfeed/feed with breastmilk, or to use breastmilk substitutes as effectively and safely as possible, are key elements of maternity and neonatal care. They are especially important during the COVID-19 pandemic. Extensive evidence-based positive developments in policy and practice to promote and support mother-baby contact, attachment, and breastfeeding have been implemented across maternity and neonatal care in the UK and many other countries in the last 15-20 years, though such changes have not been universally implemented and barriers still exist in many settings. The coronavirus pandemic and the inevitable focus on reducing infection has disrupted many of these positive developments and adversely affected mother-baby contact and infant feeding in many contexts, augmenting existing barriers. Societal changes such as hygiene measures and social distancing, lockdown, isolation, fear, and food security challenges complicate the lives of women and families. Health service changes in the UK and other countries have included virtual contact between women and staff, increased separation of mothers and babies, restrictions on parental visiting in neonatal units, the use of masks and personal protective equipment, staff redeployment and shortages, and the interruption of Unicef UK Baby Friendly Initiative accreditation programmes. Taken together, these changes pose a risk to immediate, close and loving contact between the mother and newborn infant and with the other parent and the wider family, to the initiation and continuation of breastfeeding, and to future individual and family well-being and public health. Some reports are emerging about potential positive impacts of the restrictions on postnatal visiting and increased levels of virtual contact for some families in some countries. In the context of the COVID-19 pandemic and the need to prevent or reduce infection, this rapid analytic review considers: What is the evidence base and best practice on optimising mother-baby contact? What is the evidence base and best practice on optimising infant feeding? What are the implications of this knowledge for guidance for health professionals, the care of women and babies, and information for women and families? (Author)

20200714-40*

The clinical course of SARS-CoV-2 positive neonates. De Barnardo G, Giordano M, Zollo G, et al (2020), Journal of Perinatology vol 40, no 10, October 2020, pp 1462-1469

Available from: https://doi.org/10.1038/s41372-020-0715-0

Full URL: https://doi.org/10.1038/s41372-020-0715-0

The COVID-19 pneumonia was firstly reported in Wuhan, China, in December 2019. The disease had a rapid spread all over the word becoming an international public health emergency. Limited data were available on COVID-19 positive neonates. We reviewed relevant literature to understand the clinical course of disease and transmission routes in affected neonates. The aim of the study was evaluating the clinical course and prognosis of SARS-CoV-2 positive neonates. Based on current literature, the hypothesis of vertical transmission of SARS-CoV-2, though conceivable, remains unproven. A research conducted on PubMed database from December 2019 to April 27, 2020 revealed that were reported 25 neonates affected by SARS-CoV-2. Main symptoms were fever, cough, or shortness of breath but often these neonates did not show other symptoms during length stay in hospital. No deaths occurred. (Author)

20200713-27*

Virolactia in an Asymptomatic Mother with COVID-19. Bastug A, Hanifehnezhad A, Tayman C, et al (2020), Breastfeeding Medicine vol 15, no 8, August 2020, pp 488-491

Available from: https://doi.org/10.1089/bfm.2020.0161

Full URL: https://doi.org/10.1089/bfm.2020.0161

Background: Limited data are available on the perinatal and postnatal transmission of novel coronavirus disease 2019 (COVID-19). The Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO) recommended breastfeeding with necessary precautions to mothers with COVID-19.
Case Presentation: A 20-year-old pregnant woman with no symptoms of COVID-19 presented to the hospital for delivery at 39 weeks of gestation. She was tested for severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) by reverse transcriptase polymerase chain reaction (RT-PCR) because her father had been diagnosed with COVID-19. A nasopharyngeal swab RT-PCR test was positive for SARS-CoV-2. Therefore, the baby and the mother were cared for separately after delivery. Breast milk obtained after first lactation was tested by real-time RT-PCR and was positive for SARS-CoV-2.
Conclusions: In this article, we aimed to report the presence of SARS-CoV-2 in breast milk. Although further studies are needed, this situation may have an impact on breastfeeding recommendations. (Author)

20200713-25*

Negative Transmission of SARS-CoV-2 to Hand-Expressed Colostrum from SARS-CoV-2-Positive Mothers. Gabriel MAM, Martinez AMM, Martinez MEM, et al (2020), Breastfeeding Medicine vol 15, no 8, August 2020, pp 492-494

Aim: The objective of our study was to determine whether the SARS-CoV-2-positive mothers transmit the virus to their hand-expressed colostrum.
Methods: This is an observational prospective study that included pregnant women who tested positive for SARS-CoV-2 by PCR test on a nasopharyngeal swab at the moment of childbirth and who wanted to breastfeed their newborns. A colostrum sample was obtained from the mothers by manual self-extraction. 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.
Results: We obtained seven colostrum samples from different mothers in the first hours postdelivery. SARS-CoV-2 was not detected in any of the colostrum samples obtained in our study.
Conclusion: In our study, breast milk was not a source of SARS-CoV-2 transmission. 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. (Author)

20200713-12*

COVID 19 in babies: Knowledge for neonatal care. Green J, Petty J, Bromley P, et al (2020), Journal of Neonatal Nursing vol 26, no 5, October 2020, pp 239-246

Available from: https://doi.org/10.1016/j.jnn.2020.06.005

Full URL: https://doi.org/10.1016/j.jnn.2020.06.005

Infection is a leading cause of death worldwide in babies under one month of age who are more susceptible to sepsis due to immature host defence mechanisms. Usually, babies may become acutely unwell from infective pathogens due to specific differences in their respiratory and immune systems. However, with the Covid-19 virus, the focus of this paper, it appears that the neonatal population is not significantly affected in the same way as adults. That said, knowledge about this novel virus is rapidly emerging. Therefore, it is vital that neonatal nurses, midwives and other healthcare professionals are adequately informed and educated about the potential impact on neonatal practice. This review paper draws upon key findings and themes from a selection of recent literature to provide an overview of current knowledge on Covid-19 and the implications for care within the neonatal field. The discussion focuses on the

nature of Covid-19, its pathophysiology and transmission relevant to maternal and neonatal care. This is followed by implications for practice; namely, maternal issues, the importance of human breast milk, neonatal care relating to parenting and specific management before a final review of the current World Health Organization guidance. (Author)

20200710-2*

The 2020 COVID-19 pandemic. Altimier L, Seiver A (2020), Journal of Neonatal Nursing vol 26, no 4, August 2020, pp 183-191

Available from: https://doi.org/10.1016/j.jnn.2020.06.002

Full URL: https://doi.org/10.1016/j.jnn.2020.06.002

Provides an overview of the pathophysiology, diagnosis, transmission and treatment of COVID-19. The authors specifically discuss the clinical characteristics and outcomes of SARS-CoV-2 infections in newborn infants, children and pregnant women. (LDO)

20200710-1*

Holder pasteurization of donated human milk is effective in inactivating SARS-CoV-2. Unger S, Christie-Holmes N, Guvenc F, et al (2020), Canadian Medical Association Journal (CMAJ) vol 192, no 31, 4 August 2020, pp E871-E874

Available from: https://doi.org/10.1503/cmaj.201309

Full URL: https://doi.org/10.1503/cmaj.201309

Background: Provision of pasteurized donor human milk, as a bridge to mother's own milk, is the standard of care for very low-birth-weight infants in hospital. The aim of this research was to confirm that Holder pasteurization (62.5°C for 30 min) would be sufficient to inactivate severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in donated human milk samples.

Methods: We spiked frozen milk samples from 10 donors to the Rogers Hixon Ontario Human Milk Bank with SARSCoV-2 to achieve a final concentration of 1 × 107 TCID50/mL (50% of the tissue culture infectivity dose per mL). We pasteurized samples using the Holder method or held them at room temperature for 30 minutes and plated serial dilutions on Vero E6 cells for 5 days. We included comparative controls in the study using milk samples from the same donors without addition of virus (pasteurized and unpasteurized) as well as replicates of Vero E6 cells directly inoculated with SARS-CoV-2. We reported cytopathic effects as TCID50/mL.

Results: We detected no cytopathic activity in any of the SARS-CoV-2-spiked milk samples that had been pasteurized using the Holder method. In the SARSCoV-2-spiked milk samples that were not pasteurized but were kept at room temperature for 30 minutes, we observed a reduction in infectious viral titre of about 1 log.

Interpretation: Pasteurization of human milk by the Holder method (62.5°C for 30 min) inactivates SARS-CoV-2. Thus, in the event that donated human milk contains SARS-CoV-2 by transmission through the mammary gland or by contamination, this method of pasteurization renders milk safe for consumption and handling by care providers. Joule Inc. or its licensors (Author)

20200709-40*

Spotlight on child abuse and neglect response in the time of COVID-19. York Thomas E, Anurudran A, Robb K, et al (2020), The Lancet Public Health vol 5, no 7, July 2020, p E371

Available from: https://doi.org/10.1016/S2468-2667(20)30143-2

Full URL: https://doi.org/10.1016/S2468-2667(20)30143-2

Supports the request by Chandan et al (1) for the adoption of a public health approach to the increased risk of domestic violence, child abuse and neglect during pandemics, which can lead to future problems such as mental health disorders, sexually transmitted infections, unwanted pregnancies, and substance abuse. Argues that the framework for evaluating and addressing these issues can result in public health benefits which will outlive the

current coronavirus crisis. 1. Chandon JS et al. COVID-19: a public health approach to manage domestic violence is needed. Lancet Public Health, vol 5, no 6, 2020, e309. (JSM)

20200708-6*

Pregnancy and COVID-19. Elsevier Patient Education (2020), London: Elsevier 14 April 2020. 3 pages
Available from:
https://www.elsevier.com/__data/assets/pdf_file/0008/1010312/Pregnancy-and-COVID-19_14042020.pdf?campid=20N18119&utm_campaign=ckphy_awcovid-19healthcarehub_em_20N18119&mm=cima-thornhillk®=naTT=ckphy&utm_medium=&utm_source=database&utm_content=awcovid-19healthcarehub&cid=DM65132&bid=64070031&utm_campaign=OP1007&utm_medium=email&utm_dgroup=20N18119&utm_acid=7788381&dgcid=OP1007&CMX_ID=0&utm_in=DM65132&utm_delid=DM65132

Consumer information summarising what is known so far about COVID-19 in pregnancy. (JSM)

20200708-27*

Evidence and possible mechanisms of rare maternal-fetal transmission of SARS-CoV-2. Egloff C, Vauloup-Fellous C, Picone O, et al (2020), Journal of Clinical Virology vol 128, no 104447, July 2020
Available from: https://doi.org/10.1016/j.jcv.2020.104447
Full URL: https://doi.org/10.1016/j.jcv.2020.104447

While SARS-CoV-2 infection has spread rapidly worldwide, data remains scarce about the natural history of infection in pregnant women and the risk of mother-to-fetal transmission. Current data indicates that viral RNA levels in maternal blood are low and there is no evidence of placental infection with SARS-CoV-2. Published reports to date suggest that perinatal transmission of SARSCoV- 2 can occur but is rare. Among 179 newborns tested for SARS-CoV2 at birth from mothers with COVID-19, transmission was suspected in 8 cases, 5 with positive nasopharyngeal SARS-CoV-2 RT-PCR and 3 with SARS-CoV-2 IgM. However, these cases arise from maternal infection close to childbirth and there are no information about exposition during first or second trimester of pregnancy. Welldesigned prospective cohort studies with rigorous judgement criteria are needed to determine the incidence and risk factors for perinatal transmission of SARS-CoV-2. (Author)

20200708-2*

Clinical characteristics and diagnostic challenges of pediatric COVID-19: A systematic review and meta-analysis. Chang T-S, Wu J-L, Chang L-Y (2020), Journal of the Formosan Medical Association vol 119, no 5, May 2020, pp 982-989
Available from: https://doi.org/10.1016/j.jfma.2020.04.007
Full URL: https://doi.org/10.1016/j.jfma.2020.04.007

Background/Purpose
Current studies on pediatric coronavirus disease 2019 (COVID-19) are rare. The clinical characteristics and spectrum are still unknown. Facing this unknown and emerging pathogen, we aimed to collect current evidence about COVID-19 in children.
Methods
We performed a systematic review in PubMed and Embase to find relevant case series. Because some reports were published in Chinese journals, the journals and publications of the Chinese Medical Association related to COVID-19 were completely reviewed. A random effects model was used to pool clinical data in the meta-analysis.
Results
Nine case series were included. In the pooled data, most of patients (75%) had a household contact history. The disease severity was mainly mild to moderate (98%). Only 2 children (2%) received intensive care. Fever occurred in 59% of the patients, while cough in 46%. Gastrointestinal symptoms (12%) were uncommon. There are 26% children are asymptomatic. The most common radiographic finding was ground glass opacities (48%). Currently, there is no

evidence of vertical transmission to neonates born to mothers with COVID-19. Compared with the most relevant virus, SARS-CoV, SARS-CoV-2 causes less severe disease.
Conclusion
COVID-19 has distinct features in children. The disease severity is mild. Current diagnosis is based mainly on typical ground glass opacities on chest CT, epidemiological suspicion and contact tracing. (Author)

20200707-11*
Coronavirus (COVID-19) infection in pregnancy: Information for healthcare professionals [Version 11] [Superseded by Version 12, 14 October 2020]. Royal College of Obstetricians and Gynaecologists, Royal College of Midwives, Royal College of Paediatrics and Child Health, et al (2020), Royal College of Obstetricians and Gynaecologists (RCOG) 24 July 2020. 68 pages
Available from:
https://www.rcm.org.uk/media/4181/2020-07-24-coronavirus-covid-19-infection-in-pregnancyv11.pdf
Full URL: https://www.rcm.org.uk/media/4181/2020-07-24-coronavirus-covid-19-infection-in-pregnancyv11.pdf
Guidance for healthcare professionals on Coronavirus (COVID-19) infection in pregnancy, published by the RCOG, Royal College of Midwives, Royal College of Paediatrics and Child Health, Public Health England and Health Protection Scotland. The guidance, which will be updated on a regular basis, covers: epidemiology; transmission; effect of COVID-19 on pregnant women; effect of COVID-19 on the fetus; travel advice for pregnant women; advice for women who may have been exposed; diagnosis; advice for women who have been advised to self-isolate; management of pregnant women with confirmed COVID-19; postnatal management: neonatal care and infant feeding; admissions flowchart; information for women and their families. (Publisher). [This version of the guidance has now been superseded by Version 12:
https://www.rcm.org.uk/media/4383/2020-10-14-coronavirus-covid-19-infection-in-pregnancy-v12.pdf]

20200703-27*
COVID-19 and maternal and infant health: are we getting the balance right? A rapid scoping review. Topalidou A, Thomson G, Downe S (2020), The Practising Midwife vol 23, no 7, July/August 2020, pp 36-45
Aim: The purpose of this study was to summarise the evidence of the clinical and psychological impacts of COVID-19 on perinatal women and their infants.
Methods: A rapid scoping review was conducted based on methods proposed by Arksey and O'Malley, and the World Health Organization's (WHO) practical guide for rapid reviews. We searched EMBASE, MEDLINE(R) and MIDIRS.
Results: From 1,319 hits, 26 met the inclusion criteria and were included. Most of the studies (n=22) were from China. The majority of the publications are single case studies or case reports. The findings were analysed narratively, and six broad themes emerged. These were: Vertical transmission and transmission during birth, mother-baby separation, breastmilk, likelihood of infection and clinical picture, analgesia or anaesthesia, and infants and young children. The literature search revealed that there is very little formal evidence on the impact of COVID-19 on pregnant, labouring and postnatal women, or their babies. The clinical evidence to date suggests that pregnant and childbearing women, and their babies, are not at increased risk of either getting infected, or of having severe symptoms or consequences, when compared to the population as a whole, which contrasts with outcomes for this group in other viral pandemics. There is no evidence on the short- and longer-term psychological impacts on childbearing women during COVID-19.
Conclusion: Despite this lack of evidence, many maternity services have been imposing severe restrictions on aspects of maternity care previously acknowledged as vital to optimum health (including birth companionship, breastfeeding, and contact between mother and baby). There is a critical research gap relating to the clinical and psychological consequences of both COVID-19 and of maternity service responses to the pandemic. (Author)

20200629-19*

Rates of Maternal and Perinatal Mortality and Vertical Transmission in Pregnancies Complicated by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-Co-V-2) Infection: A Systematic Review. Huntley BJ, Huntley ES, Di Mascio D, et al (2020), Obstetrics & Gynecology vol 136, no 2, August 2020, pp 303-312

Available from: https://doi.org/10.1097/AOG.0000000000004010

Full URL: https://doi.org/10.1097/AOG.0000000000004010

OBJECTIVE:
To ascertain the frequency of maternal and neonatal complications, as well as maternal disease severity, in pregnancies affected by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection.
DATA SOURCES:
MEDLINE, Ovid, ClinicalTrials.gov, MedRxiv, and Scopus were searched from their inception until April 29, 2020. The analysis was limited to reports with at least 10 pregnant patients with SARS-CoV-2 infection that reported on maternal and neonatal outcomes.
METHODS OF STUDY SELECTION:
Inclusion criteria were pregnant women with a confirmed diagnosis of SARS-CoV-2 infection. A systematic search of the selected databases was performed by implementing a strategy that included the MeSH terms, key words, and word variants for 'coronavirus,' 'SARS-CoV-2,' 'COVID-19,' and 'pregnancy.r The primary outcomes were maternal admission to the intensive care unit (ICU), critical disease, and death. Secondary outcomes included rate of preterm birth, cesarean delivery, vertical transmission, and neonatal death. Categorical variables were expressed as percentages with number of cases and 95% CIs.
TABULATION, INTEGRATION, AND RESULTS:
Of the 99 articles identified, 13 included 538 pregnancies complicated by SARS-CoV-2 infection, with reported outcomes on 435 (80.9%) deliveries. Maternal ICU admission occurred in 3.0% of cases (8/263, 95% CI 1.6-5.9) and maternal critical disease in 1.4% (3/209, 95% CI 0.5-4.1). No maternal deaths were reported (0/348, 95% CI 0.0-1.1). The preterm birth rate was 20.1% (57/284, 95% CI 15.8-25.1), the cesarean delivery rate was 84.7% (332/392, 95% CI 80.8-87.9), the vertical transmission rate was 0.0% (0/310, 95% CI 0.0-1.2), and the neonatal death rate was 0.3% (1/313, 95% CI 0.1-1.8).
CONCLUSION:
With data from early in the pandemic, it is reassuring that there are low rates of maternal and neonatal mortality and vertical transmission with SARS-CoV-2. The preterm birth rate of 20% and the cesarean delivery rate exceeding 80% seems related to geographic practice patterns.
SYSTEMATIC REVIEW REGISTRATION:
PROSPERO, CRD42020181497. (Author)

20200626-33*

Vaginal delivery in SARS-CoV-2-infected pregnant women in Northern Italy: a retrospective analysis. Ferrazzi E, Frigerio L, Savasi V, et al (2020), BJOG: An International Journal of Obstetrics and Gynaecology vol 127, no 9, August 2020, pp 1116-1121

Available from: https://doi.org/10.1111/1471-0528.16278

Full URL: https://doi.org/10.1111/1471-0528.16278

Objective
To report mode of delivery and immediate neonatal outcome in women infected with COVID-19.
Design
Retrospective study.
Setting
Twelve hospitals in northern Italy.
Participants

Pregnant women with COVID-19-confirmed infection who delivered.
Exposure
COVID 19 infection in pregnancy.
Methods
SARS-CoV-2-infected women who were admitted and delivered from 1 to 20 March 2020 were eligible. Data were collected from the clinical records using a standardised questionnaire on maternal general characteristics, any medical or obstetric co-morbidity, course of pregnancy, clinical signs and symptoms, treatment of COVID 19 infection, mode of delivery, neonatal data and breastfeeding.
Main outcome and measures
Data on mode of delivery and neonatal outcome.
Results
In all, 42 women with COVID-19 delivered at the participating centres; 24 (57.1%, 95% CI 41.0-72.3) delivered vaginally. An elective caesarean section was performed in 18/42 (42.9%, 95% CI 27.7-59.0) cases: in eight 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. Two women with COVID-19 breastfed without a mask because infection was diagnosed in the postpartum period: their newborns tested positive for SARS-Cov-2 infection. In one case, a newborn had a positive test after a vaginal operative delivery.
Conclusions
Although postpartum infection cannot be excluded with 100% certainty, these findings suggest that vaginal delivery is associated with a low risk of intrapartum SARS-Cov-2 transmission to the newborn.
Tweetable abstract
This study suggests that vaginal delivery may be associated with a low risk of intrapartum SARS-Cov-2 transmission to the newborn. (Author)

20200625-32*
SARS-CoV-2 Infection in Infants Less than 90 Days Old. Mithal LB, Machut KZ, Muller WJ, et al (2020), The Journal of Pediatrics
vol 224, September 2020, pp 150-152
This is a single-center US case series of 18 infants <90 days old who tested positive for SARS-CoV-2. These infants had a mild febrile illness without significant pulmonary disease. One half were hospitalized; one had bacterial urinary tract co-infection. Nasopharyngeal viral loads were notably high. Latinx ethnicity was overrepresented. (Author)

20200624-44*
Analysis of vaginal delivery outcomes among pregnant women in Wuhan, China during the COVID-19 pandemic. Liao J, He X, Gong Q, et al (2020), International Journal of Gynecology & Obstetrics vol 150, no 1, July 2020, pp 53-57
Available from: https://doi.org/10.1002/ijgo.13188
Full URL: https://doi.org/10.1002/ijgo.13188
Objective
To study vaginal delivery outcomes and neonatal prognosis and summarize the management of vaginal delivery during the COVID-19 pandemic.
Methods
A retrospective analysis of medical records and comparison of vaginal delivery outcomes between 10 pregnant women with clinical diagnosis of COVID-19 and 53 pregnant women without COVID-19 admitted to Zhongnan Hospital of Wuhan University between January 20 and March 2, 2020. Results of laboratory tests, imaging tests, and SARS-CoV-2 nucleic acid tests were also analyzed in neonates delivered by pregnant women with clinical diagnosis of COVID-19.

Results
There were no significant differences in gestational age, postpartum hemorrhage, and perineal resection rates between the two groups. There were no significant differences in birth weight of neonates and neonatal asphyxia rates between the two groups. Neonates delivered by pregnant women with clinical diagnosis of COVID-19 tested negative for SARS-CoV-2 infection.
Conclusions
Under the premise of full evaluation of vaginal delivery conditions and strict protection measures, pregnant women with ordinary type COVID-19 can try vaginal delivery without exacerbation of COVID-19 and without increasing the risk of SARS-CoV-2 infection in neonates. (Author)

20200624-4*

Delayed umbilical cord clamping and breastfeeding after childbirth in mothers affected by COVID 19: Recommended or not?. Kohan S, Rahnemaei FA (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 250, July 2020, p 264
Available from: https://www.ejog.org/article/S0301-2115(20)30324-9/fulltext
Full URL: https://www.ejog.org/article/S0301-2115(20)30324-9/fulltext
Short correspondence piece on early cord clamping, isolation of the newborn, lack of skin-to-skin contact and infant feeding practices to reduce the risk of COVID-19 infection in neonates. (LDO)

20200623-35*

Coronavirus: Newborn Mexican triplets test positive in 'unprecedented' case. Anon (2020), BBC News 23 June 2020
Available from: https://www.bbc.co.uk/news/world-latin-america-53147483
Full URL: https://www.bbc.co.uk/news/world-latin-america-53147483
Newborn triplets in Mexico have tested positive for coronavirus in an 'unprecedented' case, according to local health authorities. (Author, edited)

20200622-4*

Risks to children during the covid-19 pandemic: some essential epidemiology. Bhopal SS, Bagaria J, Bhopal R (2020), BMJ vol 369, no 8250, 10 June 2020, m2290
Available from: https://doi.org/10.1136/bmj.m2290
Full URL: https://doi.org/10.1136/bmj.m2290
Correspondence discussing the risks to children during the covid-19 pandemic. (MB)

20200622-3*

'Women and children last'-effects of the covid-19 pandemic on reproductive, perinatal, and paediatric health. von Dadelszen P, Khalil A, Wolfe I, et al (2020), BMJ vol 369, no 8250, 10 June 2020, m2287
Correspondence discussing the risks to children during the covid-19 pandemic. (MB)

20200622-29*

COVID-19: reflections on childbirth and neonatal care in Italy. Varsalone FF, Dermyshi E (2020), Infant vol 16, no 3, May 2020, pp 101-102
In Italy, the spread of the SARS-CoV-2 infection has hit with an uneven distribution and, fortunately, in the neonatal setting the virus affects fewer patients and with less severity. Nevertheless, the moment of childbirth has turned into a more complex event for healthcare professionals as we have to work with visors, masks and gowns. The continuously increasing number of COVID-19 cases has also given rise to the need for specific protocols to protect pregnant women and newborn babies. (Author)

20200622-27*

Response of UK milk banks to ensure the safety and supply of donor human milk in the COVID-19 pandemic and beyond. Shenker N, Hughes J, Barnett D, et al (2020), Infant vol 16, no 3, May 2020, pp 108-121

The COVID-19 pandemic is presenting several challenges to human milk banks and has highlighted a number of vulnerabilities in service provision that have been long known by those who work in the sector. In recent weeks, milk banks across the UK have worked together to understand any risks posed to infants, milk bank staff and volunteers by COVID-19, and to put in place mitigation strategies to ensure the safeguarded provision and safety of donor human milk. The authors call on policymakers to better support these essential services for vulnerable neonates during the COVID-19 pandemic and minimise the impact of future challenges through greater investment in milk bank infrastructure, research and innovation. (Author)

20200622-25*

Practical considerations for the emergency delivery of babies from mothers with confirmed or suspected COVID-19. Wells P, Taylor A, Battersby C, et al (2020), Infant vol 16, no 3, May 2020, pp 94-98

Maternity and neonatal departments must be prepared for the delivery of babies from COVID-19 positive women. We describe a guideline developed at the North Middlesex University Hospital maternity unit, for multidisciplinary team members attending an emergency caesarean section of mothers with confirmed or suspected COVID-19. Anticipated staff actions and personal protective equipment were considered to optimise staff safety and reduce transmission of SARS-CoV-2. We recommend units generate individualised guidance suitable to their settings. (Author)

20200622-22*

COVID-19: the importance of healthcare professionals in protecting human milk and breastfeeding. Spatz DL (2020), Infant vol 16, no 3, May 2020, pp 116-117

It is clear that the world will never be the same since the onset of the COVID-19 pandemic. Our daily routines and the healthcare system will be forever changed. Nonetheless, families will continue to conceive and bring new lives into the world. Now more than ever, families need access to evidence-based lactation care and support. With social distancing there are both opportunities and risks: opportunities to improve breastfeeding outcomes; risks that families may not be able to access much-needed lactation care or lactation technology. (Author)

20200622-20*

Parents are caregivers not visitors, even during a pandemic. Anderson J, Lee-Davey C (2020), Infant vol 16, no 3, May 2020, pp 103-104

While in most ways, daily life has changed drastically over the last couple of months in response to the unprecedented COVID-19 crisis, some things remain the same. Babies are still being born, and around 300 of them will continue to be admitted to neonatal care every day in the UK. Neonatal services are part of the system-wide response to COVID-19 and have had to make changes to how they operate. But now is not the time to abandon family-centred care on neonatal units - indeed it is more important than ever. (Author)

20200622-17*

National research to understand and better manage neonatal COVID-19. Gale C on behalf of The Neonatal Complications of COVID-19 Surveillance Group (2020), Infant vol 16, no 3, May 2020, pp 90-91

The novel coronavirus SARS-CoV-2 was identified in late December 2019 and causes coronavirus disease (COVID-19). This disease has been declared a pandemic by the World Health Organization and is an international public health

crisis. So far there is only relatively limited information describing the incidence, clinical course, treatments or outcomes of SARS-CoV-2 infection and COVID-19 in neonates up to 28 days old. (Author)

20200619-37*

Critically ill pregnant patient with COVID-19 and neonatal death within two hours of birth. Li J, Wang Y, Zeng Y, et al (2020), International Journal of Gynecology & Obstetrics vol 150, no 1, July 2020, pp 126-128
Available from: https://doi.org/10.1002/ijgo.13189
Full URL: https://doi.org/10.1002/ijgo.13189

COVID-19 may lead to a sharp decline in blood oxygen, can cause sudden changes in the fetal intrauterine environment, and could possibly result in neonatal death. (Author)

20200618-59*

Novel Coronavirus Infection in Febrile Infants Aged 60 Days and Younger. McLaren SH, Dayan PS, Fenster DB, et al (2020), Pediatrics vol 146, no 3, September 2020, e20201550
Available from: https://doi.org/10.1542/peds.2020-1550
Full URL: https://doi.org/10.1542/peds.2020-1550

In this case series, we describe the clinical course and outcomes of 7 febrile infants aged ≤60 days with confirmed SARS-CoV-2 infection. No infant had severe outcomes, including the need for mechanical ventilation or intensive care unit level of care, during hospitalization or at 7-day follow up. Two infants had concurrent urinary tract infections which were treated with antibiotics. While a small sample, our data suggest that febrile infants with SARS-CoV-2 infection often have mild illness. (Author)

20200617-3*

Probable congenital SARS-CoV-2 infection in a neonate born to a woman with active SARS-CoV-2 infection. Kirtsman M, Diambomba Y, Poutanen SM, et al (2020), Canadian Medical Association Journal (CMAJ) vol 192, no 24, 15 June 2020, pp E647-E650
Available from: https://doi.org/10.1503/cmaj.200821
Full URL: https://doi.org/10.1503/cmaj.200821

KEY POINTS

Neonates born to women with confirmed or suspected severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection should have testing of the nasopharynx, placenta and cord blood as soon as possible after birth, after thorough cleaning of the neonate.

Sample timing, collection methods and types of samples should be documented to help differentiate congenital, intrapartum and postpartum acquisition of SARS-CoV-2 infection in neonates. (Author)

20200616-80*

Vertical Transmission of Severe Acute Respiratory Syndrome Coronavirus 2: A Systematic Review. Yang Z, Liu Y (2020), American Journal of Perinatology vol 37, no 10, August 2020, pp 1055-1060
Available from: https://doi.org/10.1055/s-0040-1712161
Full URL: https://doi.org/10.1055/s-0040-1712161

Objective The aim of this study is to summarize currently available evidence on vertical transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Study Design A systematic review was conducted following the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-analysis Statement.

Results A total of 22 studies comprising 83 neonates born to mothers diagnosed with coronavirus disease 2019 were included in the present systematic review. Among these neonates, three were confirmed with SARS-CoV-2 infection

at 16, 36, and 72 hours after birth, respectively, by nasopharyngeal swab real-time polymerase chain reaction (RT-PCR) tests; another six had elevated virus-specific antibody levels in serum samples collected after birth, but negative RT-PCR test results. However, without positive RT-PCR tests of amniotic fluid, placenta, or cord blood, there is a lack of virologic evidence for intrauterine vertical transmission.
Conclusion There is currently no direct evidence to support intrauterine vertical transmission of SARS-CoV-2. Additional RT-PCR tests on amniotic fluid, placenta, and cord blood are needed to ascertain the possibility of intrauterine vertical transmission. For pregnant women infected during their first and second trimesters, further studies focusing on long-term outcomes are needed. (Author)

20200616-49*

Vertical Transmission of SARS-CoV-2: What is the Optimal Definition?. Blumberg DA, Underwood MA, Hedriana HL, et al (2020), American Journal of Perinatology vol 37, no 8, June 2020, pp 769-772
Available from: https://doi.10.1055/s-0040-1712457
Full URL: https://doi.10.1055/s-0040-1712457

Editorial discussing the different modes of vertical transmission of SARS-CoV-2 from the mother to the infant. The authors develop definitions for intrauterine transmission, intrapartum transmission and superficial exposure. (LDO)

20200616-12*

Argentine couple finally meet son born to surrogate mother. Anon (2020), BBC News 11 June 2020
Available from:
https://www.bbc.co.uk/news/av/world-europe-53000956/argentine-couple-finally-meet-son-born-to-surrogate-mother

In Ukraine, efforts are continuing to unite newborn babies born to surrogate mothers with their biological parents. Last month officials said that more than a hundred babies had been left stranded in Kyiv after coronavirus restrictions prevented parents from travelling from around the world to Ukraine. Reporter Jonah Fisher speaks to one couple who have finally made it to Kyiv to meet their son - ten weeks after he was born. (Author, edited)

20200615-58*

National active surveillance to understand and inform neonatal care in COVID-19. Gale C, Knight M, Ladhani S, et al (2020),
Archives of Disease in Childhood: Fetal and Neonatal Edition vol 105, no 4, July 2020, pp 346-347
Available from: http://dx.doi.org/10.1136/archdischild-2020-319372
Full URL: http://dx.doi.org/10.1136/archdischild-2020-319372

Discusses vertical and horizontal transmission of SARS-CoV-2 to infants. Suggests that active population surveillance is the best way to determine true infection rates and inform optimal perinatal and neonatal care. (LDO)

20200611-24*

Serious covid-linked condition in children 'now in decline'. Discombe M (2020), Health Service Journal 11 June 2020, online

A serious coronavirus-linked illness which put up to 100 children in intensive care now appears to be in decline as the number of covid-19 cases also falls, HSJ has been told. (Author)

20200611-22*

Effects of the Global COVID-19 Pandemic on Early Childhood Development: Short- and Long-Term Risks and Mitigating Program and Policy Actions. Yoshikawa H, Wuermli AJ, Britto PR, et al (2020), The Journal of Pediatrics 19 May 2020, online

Available from: https://doi.org/10.1016/j.jpeds.2020.05.020
Full URL: https://doi.org/10.1016/j.jpeds.2020.05.020

In just a matter of weeks, the COVID-19 pandemic has led to huge societal public health and economic challenges worldwide. The clinical effects of COVID-19 on young children are uncertain when compared with older age groups, with lower morbidity and mortality rates and no conclusive evidence supporting transmission during pregnancy, on the one hand, 1,2 but some emerging evidence of rising rates of child hyperinflammatory shock, on the other.3 Research on the effects of prior pandemics and disasters clearly indicates that there will be both immediate and long-term adverse consequences for many children, with particular risks faced during early childhood, when brain architecture is still rapidly developing and highly sensitive to environmental adversity4. Estimates predict a rise in maternal and child mortality in low- and middle-income countries as health services for non-COVID related issues become scarce. For example, a conservative scenario of 15% reduction in coverage of life-saving essential health interventions for 6 months in low- and middle-income countries is associated with a 9.8% increase in under-5 mortality and an 8.3% increase in maternal mortality.5 Before the pandemic, 43 % of all children under 5 years of age in the world were estimated to be at risk of not achieving their developmental potential.6 Unless there is a commitment to support coordinated, multisectoral approaches in which low-and middle-income countries governments receive international support to scale up essential interventions, a much higher percentage of children are at risk of devastating physical, socioemotional, and cognitive consequences over the entire course of their lives. We review the evidence base on short- and long-term risks for children during early childhood development (ECD, defining this from prenatal to 8 years of age). We also present evidence-based mitigating program and policy actions that may reduce these risks. (Author)

20200611-21*

Severe neutropenia in infants with severe acute respiratory syndrome caused by the novel coronavirus 2019 infection. Venturini E, Palmas G, Montagnani C, et al (2020), The Journal of Pediatrics vol 222, July 2020, pp 259-261

Available from: https://doi.org/10.1016/j.jpeds.2020.04.051
Full URL: https://doi.org/10.1016/j.jpeds.2020.04.051

Describes the case of 23-day-old and a 39-day-old infants with mild COVID-19 and severe neutropenia. (MB)

20200610-81*

COVID-19 and Breastfeeding: Not That Simple. Berveiller P, Guerby P, Garabedian C (2020), Journal of Human Lactation vol 36, no 2, May 2020, pp 369-370

Available from: https://doi.org/10.1177%2F0890334420917102
Full URL: https://doi.org/10.1177%2F0890334420917102

Correspondence reviewing the literature and arguing that it is not prudent to discourage mothers with COVID-19 from breastfeeding, given the known advantages of breast milk for the baby, and that there is no evidence to suggest the virus can be transmitted through breast milk. (JSM)

20200610-8*

Vertical transmission of coronavirus disease 2019: severe acute respiratory syndrome coronavirus 2 RNA on the fetal side of the placenta in pregnancies with coronavirus disease 2019-positive mothers and neonates at birth. Patanè L, Morotti D, Giunta MR, et al (2020), American Journal of Obstetrics & Gynecology MFM vol 2, no 3, suppl, August 2020, 100145

Available from: https://doi.org/10.1016/j.ajogmf.2020.100145
Full URL: https://doi.org/10.1016/j.ajogmf.2020.100145

The authors present their experience with placental SARS-CoV-2 markers of infection in a series of mothers who received a diagnosis of COVID-19 in their third trimester of pregnancy. This is the first known report of positive polymerase chain reaction (PCR) results for SARS-CoV-2 in the mother, neonate and the placental tissues. (LDO)

20200610-17*

How to reduce the potential risk of vertical transmission of SARS-CoV-2 during vaginal delivery?. Carosso A, Cosma S, Serafini P, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 250, July 2020, pp 246-249

Available from: https://doi.org/10.1016/j.ejogrb.2020.04.065
Full URL: https://doi.org/10.1016/j.ejogrb.2020.04.065

The risk of vertical transmission during vaginal delivery in COVID-19 pregnant patients is currently a topic of debate. Obstetric norms on vaginal birth assistance to reduce the potential risk of perinatal infection should be promoted by ensuring that the risk of contamination from maternal anus and faecal material is reduced during vaginal delivery. (Author)

20200609-8*

BC Perinatal and Neonatal Health Care Provider Speciality Education Guidance during COVID-19 Pandemic: Took Kit. Perinatal Services BC, Provincial Health Services Authority (2020), Perinatal Services BC June 2020, 22 pages

Available from:
http://www.perinatalservicesbc.ca/Documents/Resources/Alerts/Covid19-provincial-education-guidance-tool-kit.pdf

This tool kit has been developed to support perinatal and neonatal health care provider speciality education instructors, sites, and Health Authorities in gradually resuming perinatal and neonatal health care provider (HCP) education and training activities, while adhering to BCCDC and WorkSafeBC guidelines. The BC COVID-19 epidemiology is different from many provinces and, as such, the education strategies used in British Columbia may differ from strategies being employed in other Canadian provinces or territories. (Author)

20200609-38*

An outbreak of severe Kawasaki-like disease at the Italian epicentre of the SARS-CoV-2 epidemic: an observational cohort study. Verdoni L, Mazza A, Gervasoni A, et al (2020), The Lancet vol 365, no 10239, 6 June 2020, pp 1771-1778

Available from: https://doi.org/10.1016/S0140-6736(20)31103-X
Full URL: https://doi.org/10.1016/S0140-6736(20)31103-X

Background

The Bergamo province, which is extensively affected by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) epidemic, is a natural observatory of virus manifestations in the general population. In the past month we recorded an outbreak of Kawasaki disease; we aimed to evaluate incidence and features of patients with Kawasaki-like disease diagnosed during the SARS-CoV-2 epidemic.

Methods

All patients diagnosed with a Kawasaki-like disease at our centre in the past 5 years were divided according to symptomatic presentation before (group 1) or after (group 2) the beginning of the SARS-CoV-2 epidemic. Kawasaki-like presentations were managed as Kawasaki disease according to the American Heart Association indications. Kawasaki disease shock syndrome (KDSS) was defined by presence of circulatory dysfunction, and macrophage activation syndrome (MAS) by the Paediatric Rheumatology International Trials Organisation criteria. Current or previous infection was sought by reverse-transcriptase quantitative PCR in nasopharyngeal and oropharyngeal swabs, and by serological qualitative test detecting SARS-CoV-2 IgM and IgG, respectively.
Findings
Group 1 comprised 19 patients (seven boys, 12 girls; aged 3·0 years [SD 2·5]) diagnosed between Jan 1, 2015, and Feb 17, 2020. Group 2 included ten patients (seven boys, three girls; aged 7·5 years [SD 3·5]) diagnosed between Feb 18 and April 20, 2020; eight of ten were positive for IgG or IgM, or both. The two groups differed in disease incidence (group 1 vs group 2, 0·3 vs ten per month), mean age (3·0 vs 7·5 years), cardiac involvement (two of 19 vs six of ten), KDSS (zero of 19 vs five of ten), MAS (zero of 19 vs five of ten), and need for adjunctive steroid treatment (three of 19 vs eight of ten; all p<0·01).
Interpretation
In the past month we found a 30-fold increased incidence of Kawasaki-like disease. Children diagnosed after the SARS-CoV-2 epidemic began showed evidence of immune response to the virus, were older, had a higher rate of cardiac involvement, and features of MAS. The SARS-CoV-2 epidemic was associated with high incidence of a severe form of Kawasaki disease. A similar outbreak of Kawasaki-like disease is expected in countries involved in the SARS-CoV-2 epidemic.
Funding: None. (Author)

20200609-37*
Kawasaki-like disease: emerging complication during the COVID-19 pandemic. Viner RM, Whittaker E (2020), The Lancet
vol 365, no 10239, 6 June 2020, pp 1741-1743
Available from: https://doi.org/10.1016/S0140-6736(20)31129-6
Full URL: https://doi.org/10.1016/S0140-6736(20)31129-6

Comments on the clusters of cases that have been reported across the world of a Kawasaki disease-like symptoms in children testing positive for COVID-19. (MB)

20200608-14*
Clinical and Transmission Dynamics Characteristics of 406 Children With Coronavirus Disease 2019 in China: A Review. Zhen-Dong Y, Gao-Jun Z, Run-Ming J, et al (2020), Journal of Infection 28 April 2020, online
Available from: https://www.journalofinfection.com/article/S0163-4453(20)30241-3/pdf
Full URL: https://www.journalofinfection.com/article/S0163-4453(20)30241-3/pdf
Objective: Chinese pediatricians are working on the front line to fight COVID-19. They have published a great amount of first-hand clinical data. Collecting their data and forming a large sample for analysis is more conducive to the recognition, prevention and treatment of coronavirus disease 2019 in children. The epidemic prevention and control experience of Chinese pediatricians should be shared with the world.
Methods: By searching Chinese and English literature, the data of 406 children with COVID-19 in China were analyzed.
Results: It was found that the clustered incidence of children's families is a dynamic transmission feature; the incidence is low; asymptomatic infections and mild cases account for 44.8%, with only 7 cases of critical illness; laboratory examination of lymphocyte counts is not reduced, as it is for adults; chest CT findings are less severe than those for adults. These presentations are the clinical features of COVID-19 in children. Only 55 of the 406 cases were

tested by anal swab for virus nucleic acid, 45 of which were positive, accounting for 81.8% of stool samples. Conclusion: There are more children than adults with asymptomatic infections, milder conditions, faster recovery, and a better prognosis. Some concealed morbidity characteristics also bring difficulties to the early identification, prevention and control of COVID-19. COVID-19 screening is needed in the pediatric fever clinic, and respiratory and digestive tract nucleic acid tests should be performed. Efforts should be made to prevent children from becoming a hidden source of transmission in kindergartens, schools or families. Furthermore, China's experience in treating COVID-19 in children has led to faster recovery of sick children. (Author)

20200608-1*

The maternity response to COVID-19: an example from one maternity unit in Taiwan. Liao S-C, Chang Y-S, Chien L-Y, et al (2020), Midwifery vol 88, September 2020, 102756

Available from: https://doi.org/10.1016/j.midw.2020.102756

Full URL: https://doi.org/10.1016/j.midw.2020.102756

Discusses the preventative measures introduced in Taiwan at the government and hospital level to minimise the spread of COVID-19. The authors focus on a maternity unit in Taipei city which introduced designated walkways, fever screening, visitor restrictions, negative-pressure birth rooms and personal protective equipment. (LDO)

20200605-9

The danger indoors. Astrup J (2020), Community Practitioner vol 93, no 3, May-June 2020, pp 14-17

Explores the worrying surge in domestic abuse during the Covid-19 lockdown, the concerns for children living in households where domestic violence is taking place, and what is being done to address it. (Author, edited)

20200605-4*

Kawasaki-like multisystem inflammatory syndrome in children during the covid-19 pandemic in Paris, France: prospective observational study. Toubiana J, Poirault C, Corsia A, et al (2020), BMJ vol 369, no 8250, 3 June 2020, m2094

Available from: https://doi.org/10.1136/bmj.m2094

Objectives To describe the characteristics of children and adolescents affected by an outbreak of Kawasaki-like multisystem inflammatory syndrome and to evaluate a potential temporal association with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection.
Design Prospective observational study.
Setting General paediatric department of a university hospital in Paris, France.
Participants 21 children and adolescents (aged ≤18 years) with features of Kawasaki disease who were admitted to hospital between 27 April and 11 May 2020 and followed up until discharge by 15 May 2020.
Main outcome measures The primary outcomes were clinical and biological data, imaging and echocardiographic findings, treatment, and outcomes. Nasopharyngeal swabs were prospectively tested for SARS-CoV-2 using reverse transcription-polymerase chain reaction (RT-PCR) and blood samples were tested for IgG antibodies to the virus.
Results 21 children and adolescents (median age 7.9 (range 3.7-16.6) years) were admitted with features of Kawasaki disease over a 15 day period, with 12 (57%) of African ancestry. 12 (57%) presented with Kawasaki disease shock syndrome and 16 (76%) with myocarditis. 17 (81%) required intensive care support. All 21 patients had noticeable gastrointestinal symptoms during the early stage of illness and high levels of inflammatory markers. 19 (90%) had evidence of recent SARS-CoV-2 infection (positive RT-PCR result in 8/21, positive IgG antibody detection in 19/21). All 21 patients received intravenous immunoglobulin and 10 (48%) also received corticosteroids. The clinical outcome was favourable in all patients. Moderate coronary artery dilations were detected in 5 (24%) of the patients during hospital

stay. By 15 May 2020, after 8 (5-17) days of hospital stay, all patients were discharged home.
Conclusions The ongoing outbreak of Kawasaki-like multisystem inflammatory syndrome among children and adolescents in the Paris area might be related to SARS-CoV-2. In this study an unusually high proportion of the affected children and adolescents had gastrointestinal symptoms, Kawasaki disease shock syndrome, and were of African ancestry. (Author)

20200605-21*

Wet Nurses to Donor Milk Banks and Back Again: The Continuum of Sharing Our Milk to Save Lives. Marinelli K (2020), Journal of Human Lactation vol 36, no 2, May 2020, pp 213-216
Available from: https://doi.org/10.1177%2F0890334420927329
Full URL: https://doi.org/10.1177%2F0890334420927329

Editorial discussing the ways in which breastmilk is given to babies whose mothers are unable to feed them themselves, whether this is because of illness, separation, death or lactation insufficiency, or who chose not to. Charts the history of wet-nursing, which is seen as life-saving in circumstances when a mother cannot feed her own child, and donor milk banking. Considers infant feeding in the context of the current COVID-19 pandemic. (JSM)

20200604-93*

Breastfeeding Risk from Detectable Severe Acute Respiratory Syndrome Coronavirus 2 in Breastmilk. Zhu C, Liu W, Su H, et al (2020), Journal of Infection vol 81, no 3, September 2020, pp 452-482
Available from: https://doi.org/10.1016/j.jinf.2020.06.001
Full URL: https://doi.org/10.1016/j.jinf.2020.06.001

Correspondence reporting on the clinical characteristics of COVID-19 pneumonia in perinatal women and evidence of SARS-CoV-2 shedding in their breastmilk. (MB)

20200604-69*

Stalled vaccine programmes 'putting children's lives at risk'. Mazumdar T (2020), BBC News 4 June 2020
Available from: https://www.bbc.co.uk/news/health-52911972
Full URL: https://www.bbc.co.uk/news/health-52911972

Reports on disruptions to vaccination programmes as a result of coronavirus in 68 countries. It is estimated that 34.8 million babies have missed routine vaccinations in South East Asia and 22.9 million have missed vaccinations in Africa. (LDO)

20200603-39*

Delivery in pregnant women infected with SARS -CoV-2: A fast review. Parazzini F, Bortolus R, Mauri PA, et al (2020), International Journal of Gynecology & Obstetrics vol 150, no 1, July 2020, pp 41-46
Available from: https://doi.org/10.1002/ijgo.13166
Full URL: https://doi.org/10.1002/ijgo.13166

Background
Few case reports and clinical series exist on pregnant women infected with SARS -CoV-2 who delivered.
Objective
To review the available information on mode of delivery, vertical/peripartum transmission, and neonatal outcome in pregnant women infected with SARS -CoV-2.
Search strategy
Combination of the following key words: COVID -19, SARS -CoV-2, and pregnancy in Embase and PubMed databases.
Selection criteria

Papers reporting cases of women infected with SARS -CoV-2 who delivered.
Data collection and analysis
The following was extracted: author; country; number of women; study design; gestational age at delivery; selected clinical maternal data; mode of delivery; selected neonatal outcomes.
Main results
In the 13 studies included, vaginal delivery was reported in 6 cases (9.4%; 95% CI , 3.5-19.3). Indication for cesarean delivery was worsening of maternal conditions in 31 cases (48.4%; 95% CI , 35.8-61.3). 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.
Conclusions
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. Low frequency of spontaneous preterm birth and general favorable immediate neonatal outcome are reassuring. (Author)

20200602-14*

Detection of SARS-CoV-2 in human breastmilk. Groß R, Conzelman C, Müller JA, et al (2020), The Lancet vol 365, no 10239, 21 May 2020, pp 1757-1758
Available from: https://doi.org/10.1016/S0140-6736(20)31181-8
Full URL: https://doi.org/10.1016/S0140-6736(20)31181-8

Correspondence reporting on the results of investigations into the breast milk of two nursing mothers infected with SARS-CoV-2. (MB)

20200601-1*

Ethnicity and COVID-19 in children with comorbidities. Harman K, Verma A, Zoica B, et al (2020), The Lancet Child & Adolescent Health 28 May 2020, online
Available from: https://doi.org/10.1016/S2352-4642(20)30167-X
Full URL: https://doi.org/10.1016/S2352-4642(20)30167-X

Describes the effect of COVID-19 on children with underlying health conditions. (MB)

20200528-9*

Women leaders take action for women and children during COVID-19. The Partnership for Maternal, Newborn & Child Health (2020), Geneva: The Partnership for Maternal, Newborn & Child Health 28 May 2020
Available from: https://www.who.int/pmnch/media/news/2020/women-leaders-action-on-COVID-19/en/
Full URL: https://www.who.int/pmnch/media/news/2020/women-leaders-action-on-COVID-19/en/

Reports on the meeting of women leaders to discuss the impact of COVID-19 on women and children. The meeting highlighted access to contraception, women working as health professionals and caregivers, and children under the age of one at risk of diseases such as diptheria, measles and polio. The leaders included Princess Sarah Zeid of Jordan and Henrietta Fore, Executive Director of UNICEF. (LDO)

20200528-10*

Acute Respiratory Distress Syndrome in a Preterm Pregnant Patient With Coronavirus Disease 2019 (COVID-19). Blauvelt CA, Chiu C, Donovan AL, et al (2020), Obstetrics and Gynecology vol 136, no 1, July 2020, pp 46-51
Available from: https://doi.org/10.1097/AOG.0000000000003949
Full URL: https://doi.org/10.1097/AOG.0000000000003949

BACKGROUND:
Data suggest that pregnant women are not at elevated risk of acquiring severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection or developing severe disease compared with nonpregnant patients. However, management of pregnant patients who are critically ill with coronavirus disease 2019 (COVID-19) infection is complicated by physiologic changes and other pregnancy considerations and requires balancing maternal and fetal well-being.
CASE:
We report the case of a patient at 28 weeks of gestation with acute respiratory distress syndrome (ARDS) from COVID-19 infection, whose deteriorating respiratory condition prompted delivery. Our patient's oxygenation and respiratory mechanics improved within hours of delivery, though she required prolonged mechanical ventilation until postpartum day 10. Neonatal swabs for SARS-CoV-2 and COVID-19 immunoglobulin (Ig) G and IgM were negative.
CONCLUSION:
We describe our multidisciplinary management of a preterm pregnant patient with ARDS from COVID-19 infection and her neonate. (Author)

20200527-52*

Women and children will pay for this pandemic - unless we act. Kaljulaid K, Clark H, Varela JA, et al (2020), Geneva: The Partnership for Maternal, Newborn & Child Health 27 May 2020
Available from: https://www.who.int/pmnch/media/news/2020/paying-for-the-pandemic/en/
Full URL: https://www.who.int/pmnch/media/news/2020/paying-for-the-pandemic/en/

Suggests that, in the current coronavirus crisis, we should draw on the knowledge gleaned from past pandemics, such as the Ebola outbreak of 2014-15 in Sierra Leone, to ensure a better outcome for groups such as women, children, adolescents and vulnerable populations, who may have not been given access to sufficient resources and excluded from decision making in the past. (JSM)

20200525-9*

The Impact of the Current SARS-CoV-2 Pandemic on Neonatal Care. Arnaez J, Montes MT, Herranz-Rubia N, et al (2020),
Frontiers in Pediatrics 30 April 2020, online
Available from: https://doi.org/10.3389/fped.2020.00247
Full URL: https://doi.org/10.3389/fped.2020.00247

Discusses the ways in which the current coronavirus pandemic is affecting care policies in neonatology units and emphasises the importance of contact between mother and newborn baby for bonding. (JSM)

20200525-8*

Dilemmas and Priorities in the Dilemmas and Priorities in the Neonatal Intensive Care Unit Neonatal Intensive Care Unit during the COVID-19 Pandemic. Breindahl M, Zachariassen G, Sønderby Christensen P, et al (2020), Danish Medical Journal vol 67, no 4, April 2020, A205021
Available from: https://ugeskriftet.dk/files/scientific_article_files/2020-04/a205021_web.pdf
Full URL: https://ugeskriftet.dk/files/scientific_article_files/2020-04/a205021_web.pdf

Editorial discussing best practice in caring for families with suspected or confirmed COVID-19 in the NICU. (JSM)

20200525-7*

Current State of Knowledge About SARS-CoV-2 and COVID-19 Disease in Pregnant Women. Gujski M, Humeniuk E, Bojar I (2020), Medical Science Monitor:International Medical Journal of Experimental and Clinical Research 9 May 2020,

online
Available from: https://www.medscimonit.com/abstract/index/idArt/924725
Full URL: https://www.medscimonit.com/abstract/index/idArt/924725

During any epidemic of infectious diseases, pregnant women constitute an extremely sensitive group due to altered physiology and immune functions, and thus altered susceptibility to infection. With regard to the management of pregnant COVID-19 patients, in addition to the treatment of the infection itself, which is not that different from generally accepted principles, it is interesting to consider which obstetric procedures should be used to minimize the adverse effects on mother and child. Questions arise concerning the continuation of pregnancy, how to terminate the pregnancy, the possibility of virus transmission through the placenta, isolation of the newborn after birth, and breastfeeding. The aim of this study was to review the current state of knowledge about SARS-CoV-2 infection and COVID-19 disease in pregnant women. Because the epidemic began in China, most of the available literature comes from studies conducted there. The studies used to prepare this review article are the first non-randomized studies containing small groups of examined women. They do not provide clear indications, but show that in an epidemic situation, special care should be taken in pregnancy management, making decisions about termination of pregnancy, and handling of the newborn baby to minimize the risk of subsequent health consequences. Further analysis is needed on the incidence of COVID-19 among pregnant women and its consequences. This will allow us to develop recommendations on how to deal with patients in the future in case of repeated epidemic emergencies. (Author)

20200525-5*
Are Covid-19-positive Mothers Dangerous for Their Term and Well Newborn Babies? Is There an Answer?. Stanojević M (2020), Journal of Perinatal Medicine 13 May 2020, online
Available from: https://doi.org/10.1515/jpm-2020-0186
Full URL: https://doi.org/10.1515/jpm-2020-0186

Background: The pandemic caused by the new coronavirus SARS-CoV-2 (Covid-19) is quite a challenging experience for the world. At the moment of birth, the fetus is prepared to face the challenge of labor and the exposure to the outside world, meaning that labor and birth represent the first extrauterine major exposure to a complex microbiota. The vagina, which is a canal for reproduction, is by evolution separated (but not far) from the anus and urethra. Passing through the birthing canal is a mechanism for intergenerational transmission of vaginal and gut microorganisms for the vertical transmission of microbiota not only from our mothers and grandmothers but also from earlier ancestors. Methods: Many national and international instructions have been developed since the beginning of the Covid-19 outbreak in January 2020 in Wuhan in China. All of them pointed out hygiene measures, social distancing and avoidance of social contacts as the most important epidemiological preventive measures. Pregnancy and neonatal periods are considered as high risk for Covid-19 infection. Results: The instructions defined the care for pregnant women in the delivery room, during a hospital stay and after discharge. The controversial procedures in the care of Covid-19-suspected or -positive asymptomatic women in labor were: mode of delivery, companion during birth and labor, skin-to-skin contact, breastfeeding, and visits during a hospital stay. Conclusion: There is a hope that instruction on coping with the coronavirus (Covid-19) infection in pregnancy with all proposed interventions affecting mothers, babies and families, besides saving lives, are beneficial and efficient by exerting no harm. (Author)

20200525-4*
Importance of Inclusion of Pregnant and Breastfeeding Women in COVID-19 Therapeutic Trials. LaCourse SM, John-Stewart G, Adams Waldorf KM (2020), Clinical Infectious Diseases 15 April 2020, online
Available from: https://doi.org/10.1093/cid/ciaa444
Full URL: https://doi.org/10.1093/cid/ciaa444

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 exclusion of 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. In this Viewpoint, we call attention to the need and urgency to engage pregnant women in COVID-19 treatment trials now in order to develop data-driven recommendations regarding the risks and benefits of therapies in this unique but not uncommon population. (Author)

20200525-3*

Remdesivir. Anon (2020), Drugs and Lactation Database 11 May 2020
Available from: https://www.ncbi.nlm.nih.gov/books/NBK556881/
Full URL: https://www.ncbi.nlm.nih.gov/books/NBK556881/

Remdesivir is an investigational antiviral drug that is being tested for use against the novel coronavirus disease, COVID-19. Remdesivir is given intravenously because it is poorly absorbed orally, so infants are not likely to absorb clinically important amounts of the drug from milk. In addition, a newborn infants have received intravenous remdesivir therapy for Ebola with no serious adverse drug reactions. Given this limited information, it does not appear that mothers receiving remdesivir need to avoid nursing, but until more data are available, remdesivir should be used with careful infant monitoring during breastfeeding. The most common adverse effects reported after intravenous infusion include elevated aminotransferase and bilirubin levels and other liver function tests. Diarrhea, rash, renal impairment and hypotension have also been reported. (Author)

20200525-26*

Safety and Efficacy of Different Anesthetic Regimens for Parturients With COVID-19 Undergoing Cesarean Delivery: A Case Series of 17 Patients. Chen R, Zhang Y, Huang L, et al (2020), Canadian Journal of Anaesthesia vol 67, no 6, June 2020, pp 655-633
Available from: https://doi.org/10.1007/s12630-020-01630-7
Full URL: https://doi.org/10.1007/s12630-020-01630-7

Purpose: To assess the management and safety of epidural or general anesthesia for Cesarean delivery in parturients with coronavirus disease (COVID-19) and their newborns, and to evaluate the standardized procedures for protecting medical staff.
Methods: We retrospectively reviewed the cases of parturients diagnosed with severe acute respiratory syndrome coronavirus (SARS-CoV-2) infection disease (COVID-19). Their epidemiologic history, chest computed tomography scans, laboratory measurements, and SARS-CoV-2 nucleic acid positivity were evaluated. We also recorded the patients' demographic and clinical characteristics, anesthesia and surgery-related data, maternal and neonatal complications, as well as the health status of the involved medical staff.
Results: The clinical characteristics of 17 pregnant women infected with SARS-CoV-2 were similar to those previously reported in non-pregnant adult patients. All of the 17 patients underwent Cesarean delivery with anesthesia performed according to standardized anesthesia/surgery procedures. Fourteen of the patients underwent continuous epidural anesthesia with 12 experiencing significant intraoperative hypotension. Three patients received general anesthesia with tracheal intubation because emergency surgery was needed. Three of the parturients are still recovering from their Cesarean delivery and are receiving in-hospital treatment for COVID-19. Three neonates were born prematurely. There were no deaths or serious neonatal asphyxia events. All neonatal SARS-CoV-2 nucleic acid tests were negative. No medical staff were infected throughout the patient care period.
Conclusions: Both epidural and general anesthesia were safely used for Cesarean delivery in the parturients with

COVID-19. Nevertheless, the incidence of hypotension during epidural anesthesia appeared excessive. Proper patient transfer, medical staff access procedures, and effective biosafety precautions are important to protect medical staff from COVID-19. (Author)

20200525-25*

COVID-19 in Children, Pregnancy and Neonates: A Review of Epidemiologic and Clinical Features. Zimmermann P, Curtis N (2020), The Pediatric Infectious Disease Journal vol 39, no 6, June 2020, pp 469-477
Available from: https://doi.org/10.1097/inf.0000000000002700
Full URL: https://doi.org/10.1097/inf.0000000000002700

The novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic has spread rapidly across the globe. In contrast to initial reports, recent studies suggest that children are just as likely as adults to become infected with the virus but have fewer symptoms and less severe disease. In this review, we summarize the epidemiologic and clinical features of children infected with SARS-CoV-2 reported in pediatric case series to date. We also summarize the perinatal outcomes of neonates born to women infected with SARS-CoV-2 in pregnancy. We found 11 case series including a total of 333 infants and children. Overall, 83% of the children had a positive contact history, mostly with family members. The incubation period varied between 2 and 25 days with a mean of 7 days. The virus could be isolated from nasopharyngeal secretions for up to 22 days and from stool for more than 30 days. Co-infections were reported in up to 79% of children (mainly mycoplasma and influenza). Up to 35% of children were asymptomatic. The most common symptoms were cough (48%; range 19%-100%), fever (42%; 11%-100%) and pharyngitis (30%; 11%-100%). Further symptoms were nasal congestion, rhinorrhea, tachypnoea, wheezing, diarrhea, vomiting, headache and fatigue. Laboratory test parameters were only minimally altered. Radiologic findings were unspecific and included unilateral or bilateral infiltrates with, in some cases, ground-glass opacities or consolidation with a surrounding halo sign. Children rarely needed admission to intensive care units (3%), and to date, only a small number of deaths have been reported in children globally. Nine case series and 2 case reports described outcomes of maternal SARS-CoV-2 infection during pregnancy in 65 women and 67 neonates. Two mothers (3%) were admitted to intensive care unit. Fetal distress was reported in 30% of pregnancies. Thirty-seven percent of women delivered preterm. Neonatal complications included respiratory distress or pneumonia (18%), disseminated intravascular coagulation (3%), asphyxia (2%) and 2 perinatal deaths. Four neonates (3 with pneumonia) have been reported to be SARS-CoV-2 positive despite strict infection control and prevention procedures during delivery and separation of mother and neonates, meaning vertical transmission could not be excluded. (Author)

20200525-24*

Clinical Characteristics of 19 Neonates Born to Mothers With COVID-19. Liu W, Wang J, Li W, et al (2020), Frontiers of Medicine vol 14, no 2, April 2020, pp 193-198
Available from: https://doi.org/10.1007/s11684-020-0772-y
Full URL: https://doi.org/10.1007/s11684-020-0772-y

The aim of this study was to investigate the clinical characteristics of neonates born to SARS-CoV-2 infected mothers and increase the current knowledge on the perinatal consequences of COVID-19. Nineteen neonates were admitted to Tongji Hospital from January 31 to February 29, 2020. Their mothers were clinically diagnosed or laboratory-confirmed with COVID-19. We prospectively collected and analyzed data of mothers and infants. There are 19 neonates included in the research. Among them, 10 mothers were confirmed COVID-19 by positive SARS-CoV-2 RT-PCR in throat swab, and 9 mothers were clinically diagnosed with COVID-19. Delivery occurred in an isolation room and neonates were immediately separated from the mothers and isolated for at least 14 days. No fetal distress was found. Gestational age of the neonates was 38.6 ± 1.5 weeks, and average birth weight was 3293 ± 425 g. SARS-CoV-2 RT-PCR in throat swab, urine, and feces of all neonates were negative. SARS-CoV-2 RT-PCR in breast milk and amniotic

fluid was negative too. 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 in our study. The delivery should occur in isolation and neonates should be separated from the infected mothers and care givers. (Author)

20200525-23*

COVID-19 in Children: Clinical Approach and Management. Sankar J, Dhochak N, Kabra SK, et al (2020), Indian Journal of Pediatrics vol 87, no 6, June 2020, pp 433-442

Available from: https://doi.org/10.1007/s12098-020-03292-1

Full URL: https://doi.org/10.1007/s12098-020-03292-1

COVID-19 pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a major public health crisis threatening humanity at this point in time. Transmission of the infection occurs by inhalation of infected droplets or direct contact with soiled surfaces and fomites. It should be suspected in all symptomatic children who have undertaken international travel in the last 14 d, all hospitalized children with severe acute respiratory illness, and asymptomatic direct and high-risk contacts of a confirmed case. Clinical symptoms are similar to any acute respiratory viral infection with less pronounced nasal symptoms. Disease seems to be milder in children, but situation appears to be changing. Infants and young children had relatively more severe illness than older children. The case fatality rate is low in children. Diagnosis can be confirmed by Reverse transcriptase - Polymerase chain reaction (RT-PCR) on respiratory specimen (commonly nasopharyngeal and oropharyngeal swab). Rapid progress is being made to develop rapid diagnostic tests, which will help ramp up the capacity to test and also reduce the time to getting test results. Management is mainly supportive care. In severe pneumonia and critically ill children, trial of hydroxychloroquine or lopinavir/ritonavir should be considered. As per current policy, children with mild disease also need to be hospitalized; if this is not feasible, these children may be managed on ambulatory basis with strict home isolation. Pneumonia, severe disease and critical illness require admission and aggressive management for acute lung injury and shock and/or multiorgan dysfunction, if present. An early intubation is preferred over non-invasive ventilation or heated, humidified, high flow nasal cannula oxygen, as these may generate aerosols increasing the risk of infection in health care personnel. To prevent post discharge dissemination of infection, home isolation for 1-2 wk may be advised. As of now, no vaccine or specific chemotherapeutic agents are approved for children. (Author)

20200525-22*

Potential Maternal and Infant Outcomes From (Wuhan) Coronavirus 2019-nCoV Infecting Pregnant Women: Lessons From SARS, MERS, and Other Human Coronavirus Infections. Schwartz DA, Graham AL (2020), Viruses vol 12, no 2, February 2020, Article no: 194

Available from: https://doi.org/10.3390/v12020194

Full URL: https://doi.org/10.3390/v12020194

In early December 2019 a cluster of cases of pneumonia of unknown cause was identified in Wuhan, a city of 11 million persons in the People's Republic of China. Further investigation revealed these cases to result from infection with a newly identified coronavirus, termed the 2019-nCoV. The infection moved rapidly through China, spread to Thailand and Japan, extended into adjacent countries through infected persons travelling by air, eventually reaching multiple countries and continents. Similar to such other coronaviruses as those causing the Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS), the new coronavirus was reported to spread via natural aerosols from human-to-human. In the early stages of this epidemic the case fatality rate is estimated to be approximately 2%, with the majority of deaths occurring in special populations. Unfortunately, there is limited experience with coronavirus infections during pregnancy, and it now appears certain that pregnant women have become infected during the present 2019-nCoV epidemic. In order to assess the potential of the Wuhan 2019-nCoV to cause maternal, fetal and neonatal morbidity and other poor obstetrical outcomes, this communication reviews the

published data addressing the epidemiological and clinical effects of SARS, MERS, and other coronavirus infections on pregnant women and their infants. Recommendations are also made for the consideration of pregnant women in the design, clinical trials, and implementation of future 2019-nCoV vaccines. (Author)

20200525-21*

Psychological Status of Postpartum Women Under the COVID-19 Pandemic in Japan. Suzuki S (2020), The Journal of Maternal-Fetal and Neonatal Medicine 18 May 2020, online
Available from: https://doi.org/10.1080/14767058.2020.1763949
Full URL: https://doi.org/10.1080/14767058.2020.1763949

Under the COVID-19 (Coronavirus Disease 2019) pandemic, limitations are known to cause some psychosocial problems. We compared the results of mental screening of the postpartum women conducted during the COVID-19 epidemic with those at the same period last year. Based on the results, the worse mother-infant bonding was suspected at 1 month after birth under the COVID-19 pandemic. (Author)

20200525-20*

Neonatal Coronavirus 2019 (COVID-19) Infection: A Case Report and Review of Literature. Dumpa V, Kamity R, Vinci AN, et al (2020), Cureus vol 12, no 5, 17 May 2020, e8165
Available from: https://doi.org/10.7759/cureus.8165
Full URL: https://doi.org/10.7759/cureus.8165

Coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has led to a global pandemic affecting 213 countries as of April 26, 2020. Although this disease is affecting all age groups, infants and children seem to be at a lower risk of severe infection, for reasons unknown at this time. We report a case of neonatal infection in New York, United States, and provide a review of the published cases. 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 polymerase chain reaction (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 family was advised to self-quarantine to prevent the transmission of COVID-19. We believe that the 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. Hence, with an understanding of the transmission patterns, parents and caregivers would be better equipped to limit the spread of the virus and protect the more vulnerable population. (Author)

20200525-19*

Management of the Mother-Infant Dyad With Suspected or Confirmed SARS-CoV-2 Infection in a Highly Epidemic Context. Pietrasanta C, Pugni L, Ronchi A, et al (2020), Journal of Neonatal-Perinatal Medicine 20 May 2020, online
Available from: https://doi.org/10.3233/npm-200478
Full URL: https://doi.org/10.3233/npm-200478

Addresses a number of aspects of the mother-infant dyad management during SARS-CoV-2 epidemic. Networking among maternity centers and anticipatory planning is essential to organise the 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 contagion 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. (Author)

20200525-18*

Lack of viral transmission to preterm newborn from a COVID-19 positive breastfeeding mother at 11 days postpartum.

Perrone S, Giordano M, Meoli A, et al (2020), Journal of Medical Virology 21 May 2020, online

Available from: https://doi.org/10.1002/jmv.26037

Full URL: https://doi.org/10.1002/jmv.26037

In December 2019, novel coronavirus 2019 has appeared in China. On 11 February 2020, the World Health Organization officially names the disease as COVID-19 (1). The new coronavirus is highly contagious. The rapid spread of SARS-CoV-2 lead to declare the pandemic on the 11th March 2020. On 10 May 2020 the number of infected people is 4,132,373 worldwide (2). 1. Hong H et al. Clinical characteristics of novel coronavirus disease 2019 (COVID-19) in newborns, infants and children. Pediatric Neonatology, vol 61, no 2, . pp 131-132. 2. Worldometer. Covid-19 coronavirus pandemic. Retrieved from https://www.worldometers.info/coronavirus/ (Accessed on 10 May 2020) Davanzo R. Breast feeding at the time of COVID-19: do not forget expressed mother's milk, please. Archives of Disease in Childhood: Fetal Neonatal Edition. 2020, 6 April 2020, online. (Author)

20200525-17*

Can SARS-CoV-2-infected women breastfeed after viral clearance?.. Lang GJ, Zhao H (2020), Journal of Zhejiang University.Science B vol 21, no 5, May 2020, pp 405-407

Available from: https://doi.org/10.1631/jzus.b2000095

Full URL: https://doi.org/10.1631/jzus.b2000095

The recently emerged novel coronavirus pneumonia, named the coronavirus disease 2019 (COVID-19), shares several clinical characteristics with severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), and spread rapidly throughout China in December of 2019 (Huang et al., 2020). The pathogen 2019 novel coronavirus (2019-nCoV) is now named SARS coronavirus 2 (SARS-CoV-2) and is highly infectious. As of Apr. 9, 2020, over 80 000 confirmed cases had been reported, with an estimated mortality rate of 4.0% (Chinese Center for Disease Control and Prevention, 2020). Person-to-person transmission and familial clustering have been reported (Chan et al., 2020; Nishiura et al., 2020; Phan et al., 2020). However, there is no evidence of fetal intrauterine infection in pregnant women who have been infected with SARS-CoV-2 in their third trimester (Chen et al., 2020). It is unclear whether breastfeeding transmits the virus from previously infected and recovered mothers to their babies. Here we report the clinical course of a pregnant woman with COVID-19. In order to determine whether SARS-CoV-2 can be transmitted to newborns through breastfeeding, we measured viral RNA in the patient's breastmilk samples at different time points after delivery. (Author)

20200525-16*

Near-term Pregnant Women's Attitude Toward, Concern About and Knowledge of the COVID-19 Pandemic. Yassa M, Birol P, Yirmibes C, et al (2020), The Journal of Maternal-Fetal and Neonatal Medicine vol 33, no 22, 2020, pp 3827-3834

Available from: https://doi.org/10.1080/14767058.2020.1763947

Full URL: https://doi.org/10.1080/14767058.2020.1763947

Background: COVID-19 is a novel type of the coronavirus family with an incompletely described clinical course. Little is known about the psychological aspects, particularly for vulnerable populations including pregnant women.Objectives: To understand the attitude, concerns, and knowledge of the non-infected pregnant women toward the COVID-19

outbreak in order to constitute base data for detailed counseling and to develop targeted messages.Patients and methods: This cross-sectional survey research presented analysis of prospectively collected data yielded at a single tertiary 'Coronavirus Pandemic Hospital' referral center for a ten days period following the first confirmed death due to the COVID-19 pandemic in Turkey. Non-infected women with a confirmed pregnancy over 30th gestational week were consecutively included. A patient-reported non-validated questionnaire formed by the expert committee that includes 15 specific questions was used. Non-infected, pregnant women over 30th gestational week who applied to the outpatient clinic were consecutively included. A total of 213 women were enrolled, 37 were excluded: 7 for being in the first trimester, 3 were illiterate, and 27 were Syrian refugees having difficulties in translation.Results: A total of 172 pregnant women were included. Overall, four women refused to participate to the survey (1.9%). The mean age was 27.5 ± 5.3 years. Median gestational week and parity were 35 ± 11 weeks and 1 ± 2, respectively. Pregnant women were observed to trust the authorities (65%) and the healthcare staff (92.4%), and their respect was increased (82.5%) during the outbreak. Majority of the women (87.2%) comply with the self-quarantine rules. Half of the women (52%) reported that they felt vulnerable and predominantly were concerned (80%). Approximately one-third of the women constantly keep thinking that they may get infected (35.5%) or they might get infected during/following the delivery or their baby might get infected after being born (42%). Half of the women (50%) were reported that they either had no idea about or think the breastfeeding is not safe during the outbreak. About 45% of the women were confused or had doubts about if the mode of delivery may be affected by the pandemic. Greater part of the participants does not know if COVID-19 might cause birth defects (76%) or preterm birth (64.5%). Counseling flow keys helping pregnant women to overcome misleads, regarding the COVID-19 outbreak is proposed.Conclusions: Non-infected pregnant women with a viable pregnancy at near term were observed to have positive attitude and compliance toward the COVID-19 outbreak and frontline healthcare staff; increased concern and vulnerability; and restricted knowledge about the pregnancy-related outcomes. While the clinical evidence was growing rapidly, this data may guide obstetricians and midwives to perceive what accurate information should be provided to the pregnant women. (Author)

20200525-15*
Management of Newborns Exposed to Mothers With Confirmed or Suspected COVID-19. Amatya S, Corr TE, Gandhi CK, et al (2020), Journal of Perinatology vol 40, no 7, July 2020, pp 987-996
Available from: https://doi.org/10.1038/s41372-020-0695-0
Full URL: https://doi.org/10.1038/s41372-020-0695-0

There is limited information about newborns with confirmed or suspected COVID-19. Particularly in the hospital after delivery, clinicians have refined practices in order to prevent secondary infection. While guidance from international associations is continuously being updated, all facets of care of neonates born to women with confirmed or suspected COVID-19 are center-specific, given local customs, building infrastructure constraints, and availability of protective equipment. Based on anecdotal reports from institutions in the epicenter of the COVID-19 pandemic close to our hospital, together with our limited experience, in anticipation of increasing numbers of exposed newborns, we have developed a triage algorithm at the Penn State Hospital at Milton S. Hershey Medical Center that may be useful for other centers anticipating a similar surge. We discuss several care practices that have changed in the COVID-19 era including the use of antenatal steroids, delayed cord clamping (DCC), mother-newborn separation, and breastfeeding. Moreover, this paper provides comprehensive guidance on the most suitable respiratory support for newborns during the COVID-19 pandemic. We also present detailed recommendations about the discharge process and beyond, including providing scales and home phototherapy to families, parental teaching via telehealth and in-person education at the doors of the hospital, and telehealth newborn follow-up. (Author)

20200525-14*

Clinical Course of Coronavirus Disease-2019 in Pregnancy. Pereira A, Cruz-Melguizo S, Adrien M, et al (2020), Acta Obstetricia
et Gynecologica Scandinavica vol 99, no 7, July 2020, pp 839-847
Available from: https://doi.org/10.1111/aogs.13921
Full URL: https://doi.org/10.1111/aogs.13921

Introduction: The aim of this study is to report our clinical experience in the management of pregnant women infected with Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) during the first thirty days of the Coronavirus disease (COVID-19) pandemic.
Material and methods: We reviewed clinical data from the first 60 pregnant women with COVID-19 whose care was managed at Puerta de Hierro University Hospital, Madrid, Spain from March 14th to April 14th , 2020. Demographic data, clinical findings, laboratory test results, imaging findings, treatment received, and outcomes were collected. An analysis of variance (Kruskal-Wallis test) was performed to compare the medians of laboratory parameters. Fisher's exact test was used to evaluate categorical variables. A correspondence analysis was used to explore associations between variables.
Results: A total of 60 pregnant women were diagnosed with COVID-19. The most common symptoms were fever and cough (75.5%, each) followed by dyspnea (37.8%). Forty-one 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, 18 of the women (78%) delivered vaginally. All newborns tested negative for SARS-CoV-2 and none of them were infected during breastfeeding. No SARS-CoV-2 was detected in placental tissue.
Conclusions: Most of the pregnant COVID-19 positive patients had a favorable clinical course. However, one-third of them developed pneumonia, of whom 5% presented a critical clinical status. CRP and D-dimer levels positively correlated with severe pneumonia and the neutrophil/lymphocyte ratio decreased as the patients improved clinically. Seventy-eight percent of patients had a vaginal delivery. No vertical or horizontal transmissions were diagnosed in the neonates during labor or breastfeeding. (Author)

20200525-13*

Novel Coronavirus disease (COVID-19) in newborns and infants: what we know so far. De Rose DU, Piersigilli F, Ronchetti MP, et al (2020), Italian Journal of Pediatrics vol 46, no 1, 29 April 2020, Article no: 56
Available from: https://doi.org/10.1186/s13052-020-0820-x
Full URL: https://doi.org/10.1186/s13052-020-0820-x

Recently, an outbreak of viral pneumonitis in Wuhan, Hubei, China successively spread as a global pandemia, led to the identification of a novel betacoronavirus species, the 2019 novel coronavirus, successively designated 2019-nCoV then SARS-CoV-2). The SARS-CoV-2 causes a clinical syndrome designated coronavirus disease 2019 (COVID19) with a spectrum of manifestations ranging from mild upper respiratory tract infection to severe pneumonitis, acute respiratory distress syndrome (ARDS) and death. Few cases have been observed in children and adolescents who seem to have a more favorable clinical course than other age groups, and even fewer in newborn babies. This review provides an overview of the knowledge on SARS-CoV-2 epidemiology, transmission, the associated clinical presentation and outcomes in newborns and infants up to 6 months of life. (Author)

20200525-12*

Improving the quality of care in pregnancy and childbirth with coronavirus (COVID-19): a systematic review. Abdollahpour S, Khadivzadeh T (2020), Journal of Maternal-Fetal & Neonatal Medicine 14 May 2020, online

Available from: https://doi.org/10.1080/14767058.2020.1759540

Full URL: https://doi.org/10.1080/14767058.2020.1759540

In the context of serious coronavirus epidemic, it is critical that pregnant women not be ignored potentially life-saving interventions. So, this study was designed to improve the quality of care by health providers through what they need to know about coronavirus during pregnancy and childbirth. We conducted a systematic review of electronic databases was performed for published in English, before 25 March 2020. Finally, 29 papers which had covered the topic more appropriately were included in the study. The results of the systematic review of the 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, Breastfeeding. In conclusion, improving quality of care in maternal health, as well as educating, training, and supporting healthcare providers in infection management to be prioritized. Sharing data can help to countries that to prevent maternal and neonatal morbidity associated with the COVID-19. (Author)

20200525-11*

Vaginal delivery in SARS-CoV-2 infected pregnant women in Northern Italy: a retrospective analysis. Ferrazzi E, Frigerio L, Savasi V, et al (2020), BJOG: An International Journal of Obstetrics and Gynaecology 27 April 2020, online

Available from: https://doi.org/10.1111/1471-0528.16278

Full URL: https://doi.org/10.1111/1471-0528.16278

Objective: To report mode of delivery and immediate neonatal outcome in COVID-19 infected women.

Design: This is a retrospective study.

Setting: Twelve hospitals in northern Italy.

Participants: Pregnant women with COVID-19 confirmed infection who delivered.

Exposure: COVID 19 infection in pregnancy.

Methods: SARS-CoV-2 infected women who were admitted and delivered during the period 1-20 march 2020 were eligible. Data were collected from the clinical records using a standardized questionnaire on maternal general characteristics, any medical or obstetric co-morbidity, course of pregnancy, clinical signs and symptoms, treatment of COVID 19 infection, mode of delivery, neonatal data and breastfeeding MAIN OUTCOME AND MEASURE: Data on mode of delivery and neonatal outcome RESULTS: 42 women with COVID-19 delivered at the participating centres: 24(57,1%, 95% CI= 41,0-72,3) 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%,95CI 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. Two women with COVID-19 breastfed without a mask because infection was diagnosed in the post-partum period: their new-borns tested positive for SARS-Cov-2 infection. In one case a new-born had a positive test after a vaginal operative delivery.

Conclusions: Although post-partum infection cannot be excluded with 100% certainty, these findings suggest that vaginal delivery is associated with a low risk of intrapartum SARS-Cov-2 transmission to the new-born. (Author)

20200525-10*

SARS-CoV-2 Infection in Pregnancy - a Review of the Current Literature and Possible Impact on Maternal and Neonatal Outcome. Stumpfe FM, Titzmann A, Schneider MO, et al (2020), Geburtshilfe und Frauenheilkunde vol 80, no 4, 2020, pp 380-390

Available from:
https://www.thieme-connect.de/products/ejournals/html/10.1055/a-1134-5951?articleLanguage=en

Full URL: https://www.thieme-connect.de/products/ejournals/html/10.1055/a-1134-5951?articleLanguage=en

In December 2019, cases of pneumonia of unknown cause first started to appear in Wuhan in China; subsequently, a new coronavirus was soon identified as the cause of the illness, now known as Coronavirus Disease 2019 (COVID-19). Since then, infections have been confirmed worldwide in numerous countries, with the number of cases steadily rising. The aim of the present review is to provide an overview of the new severe acute respiratory syndrome (SARS) coronavirus 2 (SARS-CoV-2) and, in particular, to deduce from it potential risks and complications for pregnant patients. For this purpose, the available literature on cases of infection in pregnancy during the SARS epidemic of 2002/2003, the MERS (Middle East respiratory syndrome) epidemic ongoing since 2012, as well as recent publications on cases infected with SARS-CoV-2 in pregnancy are reviewed and reported. Based on the literature available at the moment, it can be assumed that the clinical course of COVID-19 disease may be complicated by pregnancy which could be associated with a higher mortality rate. It may also be assumed at the moment that transmission from mother to child in utero is unlikely. Breastfeeding is possible once infection has been excluded or the disease declared cured. (Author)

20200525-1*

Favipiravir. Anon (2020), Drugs and Lactation Database 11 May 2020

Available from: https://www.ncbi.nlm.nih.gov/books/NBK556878/

Full URL: https://www.ncbi.nlm.nih.gov/books/NBK556878/

Favipiravir is an investigational antiviral drug that is being tested for use against the novel coronavirus disease, COVID-19. No information is available on the use of favipiravir during breastfeeding or its excretion into breastmilk. Favipiravir is a small molecule that is about 60% protein bound in plasma, so it would be expected to appear in breastmilk and be absorbed by the infant, probably in small amounts. In clinical trials, favipiravir has been well tolerated, but has caused liver enzyme abnormalities, gastrointestinal symptoms, and serum uric acid elevations.[1-3] If favipiravir is used in a nursing mother, these parameters should be monitored in the breastfed infant. (Author)

20200522-25*

Horizontal transmission of severe acute respiratory syndrome coronavirus 2 to a premature infant: multiple organ injury and association with markers of inflammation. Cook J, Harman K, Zoica B, et al (2020), The Lancet Child & Adolescent Health vol 4, no 7, July 2020, pp 548-551

Available from: https://doi.org/10.1016/S2352-4642(20)30166-8

Full URL: https://doi.org/10.1016/S2352-4642(20)30166-8

Reports the case of an infant with severe disease caused by SARS-CoV-2 resulting in multiple organ injury. (MB)

20200521-44*

Severe COVID-19 during Pregnancy and Possible Vertical Transmission. Alzamora MC, Paredes T, Caceres D, et al (2020), American Journal of Perinatology vol 37, no 8, June 2020, pp 861-865

Available from: https://doi.10.1055/s-0040-1710050

Full URL: https://doi.10.1055/s-0040-1710050

There are few cases of pregnant women with novel corona virus 2019 (COVID-19) in the literature, most of them with

a mild illness course. There is limited evidence about in utero infection and early positive neonatal testing. A 41-year-old G3P2 with a history of previous cesarean deliveries and diabetes mellitus presented with a 4-day history of malaise, low-grade fever, and progressive shortness of breath. A nasopharyngeal swab was positive for COVID-19, COVID-19 serology was negative. The patient developed respiratory failure requiring mechanical ventilation on day 5 of disease onset. The patient underwent a cesarean delivery, and neonatal isolation was implemented immediately after birth, without delayed cord clamping or skin-to-skin contact. The neonatal nasopharyngeal swab, 16 hours after delivery, was positive for severe acute respiratory syndrome-coronavirus 2 (SARS-CoV-2) real-time polymerase chain reaction (RT-PCR), and immunoglobulin (Ig)-M and IgG for SARS-CoV-2 were negative. Maternal IgM and IgG were positive on postpartum day 4 (day 9 after symptom onset). We report a severe presentation of COVID-19 during pregnancy. To our knowledge, this is the earliest reported positive PCR in the neonate, raising the concern for vertical transmission. We suggest pregnant women should be considered as a high-risk group and minimize exposures for these reasons. (Author)

20200521-24*

COVID-19 and Neonatal Respiratory Care: Current Evidence and Practical Approach. Shalish W, Lakshminrusimha S, Manzoni P, et al (2020), American Journal of Perinatology vol 37, no 8, June 2020, pp 780-791
Available from: https://doi.10.1055/s-0040-1710522
Full URL: https://doi.10.1055/s-0040-1710522

The novel coronavirus disease 2019 (COVID-19) pandemic has urged the development and implementation of guidelines and protocols on diagnosis, management, infection control strategies, and discharge planning. However, very little is currently known about neonatal COVID-19 and severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) infections. Thus, many questions arise with regard to respiratory care after birth, necessary protection to health care workers (HCW) in the delivery room and neonatal intensive care unit (NICU), and safety of bag and mask ventilation, noninvasive respiratory support, deep suctioning, endotracheal intubation, and mechanical ventilation. Indeed, these questions have created tremendous confusion amongst neonatal HCW. In this manuscript, we comprehensively reviewed the current evidence regarding COVID-19 perinatal transmission, respiratory outcomes of neonates born to mothers with COVID-19 and infants with documented SARS-CoV-2 infection, and the evidence for using different respiratory support modalities and aerosol-generating procedures in this specific population. The results demonstrated that to date, neonatal COVID-19 infection is uncommon, generally acquired postnatally, and associated with favorable respiratory outcomes. The reason why infants display a milder spectrum of disease remains unclear. Nonetheless, the risk of severe or critical illness in young patients exists. Currently, the recommended respiratory approach for infants with suspected or confirmed infection is not evidence based but should include all routinely used types of support, with the addition of viral filters, proper personal protective equipment, and placement of infants in isolation rooms, ideally with negative pressure. As information is changing rapidly, clinicians should frequently watch out for updates on the subject. (Author)

20200521-1*

Skin-to-Skin Care and COVID-19. Boscia C (2020), Pediatrics vol 146, no 2, August 2020, e20201836
Available from: https://doi.org/10.1542/peds.2020-1836
Full URL: https://doi.org/10.1542/peds.2020-1836

Examines the issues surrounding skin to skin care immediately after birth durng the COVID-19 pandemic. (MB)

20200520-32*

COVID-19 in Newborns and Infants-Low Risk of Severe Disease: Silver Lining or Dark Cloud?. Rawat M, Chandrasekharan P, Hicar MD, et al (2020), American Journal of Perinatology vol 37, no 8, June 2020, pp 845-849
Available from: https://doi.10.1055/s-0040-1710512
Full URL: https://doi.10.1055/s-0040-1710512

One hundred years after the 1918 influenza pandemic, we now face another pandemic with the severe acute respiratory syndrome-novel coronavirus-2 (SARS-CoV-2). There is considerable variability in the incidence of infection and severe disease following exposure to SARS-CoV-2. Data from China and the United States suggest a low prevalence of neonates, infants, and children, with those affected not suffering from severe disease. In this article, we speculate different theories why this novel agent is sparing neonates, infants, and young children. The low severity of SARS-CoV-2 infection in this population is associated with a high incidence of asymptomatic or mildly symptomatic infection making them efficient carriers. (Author)

20200519-8*

Corona Virus Disease 2019, a growing threat to children?. Yang P, Liu P, Li D, et al (2020), Journal of Infection vol 80, no 6, June 2020, pp 671-693
Available from: https://www.journalofinfection.com/article/S0163-4453(20)30105-5/fulltext
Full URL: https://www.journalofinfection.com/article/S0163-4453(20)30105-5/fulltext

Highlights: • COVID-19 was reported in Wuhan, China and spread rapidly to nationwide and 25 other countries. • Most of children COVID-19 are familial clusters with mild clinical symptoms. • Early isolation should be performed to protect underlying diseases children. • It is necessary to isolate the newborns immediately after delivery. (Author)

20200519-7*

Clinical and CT imaging features of the COVID-19 pneumonia: Focus on pregnant women and children. Liu H, Liu F, Li J, et al (2020), Journal of Infection vol 80, no 5, May 2020, pp E7-E13
Available from: https://doi.org/10.1016/j.jinf.2020.03.007
Full URL: https://doi.org/10.1016/j.jinf.2020.03.007

Background
The ongoing outbreak of COVID-19 pneumonia is globally concerning. We aimed to investigate the clinical and CT features in the pregnant women and children with this disease, which have not been well reported.
Methods
Clinical and CT data of 59 patients with COVID-19 from January 27 to February 14, 2020 were retrospectively reviewed, including 14 laboratory-confirmed non-pregnant adults, 16 laboratory-confirmed and 25 clinically-diagnosed pregnant women, and 4 laboratory-confirmed children. The clinical and CT features were analyzed and compared.

Findings
Compared with the non-pregnant adults group (n = 14), initial normal body temperature (9 [56%] and 16 [64%]), leukocytosis (8 [50%] and 9 [36%]) and elevated neutrophil ratio (14 [88%] and 20 [80%]), and lymphopenia (9 [56%] and 16 [64%]) were more common in the laboratory-confirmed (n = 16) and clinically-diagnosed (n = 25) pregnant groups. Totally 614 lesions were detected with predominantly peripheral and bilateral distributions in 54 (98%) and 37 (67%) patients, respectively. Pure ground-glass opacity (GGO) was the predominant presence in 94/131 (72%) lesions for the non-pregnant adults. Mixed consolidation and complete consolidation were more common in the laboratory-confirmed (70/161 [43%]) and clinically-diagnosed (153/322 [48%]) pregnant groups than 37/131 (28%) in

the non-pregnant adults (P = 0·007, P < 0·001). GGO with reticulation was less common in 9/161 (6%) and 16/322 (5%) lesions for the two pregnant groups than 24/131 (18%) for the non-pregnant adults (P = 0·001, P < 0·001). The pulmonary involvement in children with COVID-19 was mild with a focal GGO or consolidation. Twenty-three patients underwent follow-up CT, revealing progression in 9/13 (69%) at 3 days whereas improvement in 8/10 (80%) at 6-9 days after initial CT scans.
Interpretation
Atypical clinical findings of pregnant women with COVID-19 could increase the difficulty in initial identification. Consolidation was more common in the pregnant groups. The clinically-diagnosed cases were vulnerable to more pulmonary involvement. CT was the modality of choice for early detection, severity assessment, and timely therapeutic effects evaluation for the cases with epidemic and clinical features of COVID-19 with or without laboratory confirmation. The exposure history and clinical symptoms were more helpful for screening in children versus chest CT. (Author)

20200519-22*

Perinatal aspects on the covid-19 pandemic: a practical resource for perinatal-neonatal specialists. Mimouni F, Lakshminrusimha S, Pearlman SA, et al (2020), Journal of Perinatology vol 40, no 5, May 2020, pp 820-826
Available from: https://doi.org/10.1038/s41372-020-0665-6
Full URL: https://doi.org/10.1038/s41372-020-0665-6

Background
Little is known about the perinatal aspects of COVID-19.
Objective
To summarize available evidence and provide perinatologists/neonatologists with tools for managing their patients.
Methods
Analysis of available literature on COVID-19 using Medline and Google scholar.
Results
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. We cannot conclude if pregnancy is a risk factor for more severe disease in women with COVID-19. 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. Links to websites of organizations with updated COVID-19 information are provided. Infographics summarize an approach to the pregnant woman or neonate with suspected or confirmed COVID-19.
Conclusions
As the pandemic continues, more data will be available that could lead to changes in current knowledge and recommendations. (Author)

20200519-14*

Evidence of a significant secretory-IgA-dominant SARS-CoV-2 immune response in human milk following recovery from COVID-19. Fox A, Marino J, Amanat F, et al (2020), MedRxiv 8 May 2020, online
Available from: https://doi.org/10.1101/2020.05.04.20089995
Full URL: https://doi.org/10.1101/2020.05.04.20089995

In this preliminary report, 15 milk samples obtained from donors previously-infected with SARS-CoV-2 as well as 10 negative control samples obtained prior to December 2019 were tested for reactivity to the Receptor Binding Domain (RBD) of the SARS-CoV-2 Spike protein by ELISAs measuring IgA, IgG, IgM, and secretory Ab. Eighty percent of samples obtained post-COVID-19 exhibited IgA reactivity, and all these samples were also positive for secretory Ab reactivity, suggesting the IgA is predominantly sIgA. COVID-19 group mean OD values of undiluted milk were significantly greater

for IgA (p<0.0001), secretory-type Abs (p<0.0001), and IgG (p=0.017), but not for IgM, compared to pre-pandemic group mean values. Overall, these data indicate that there is strong sIgA-dominant SARS-CoV-2 immune response in human milk after infection in the majority of individuals, and that a comprehensive study of this response is highly warranted. (Author, edited) [This article is a preprint and has not been peer-reviewed. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice]

20200518-11*

Antibodies in Infants Born to Mothers With COVID-19 Pneumonia. Zeng H, Xu C, Fan J, et al (2020), JAMA (Journal of the American Medical Association) vol 323, no 18, 12 May 2020, pp 1848-1849
Available from: https://doi.org/10.1001/jama.2020.4861
Full URL: https://doi.org/10.1001/jama.2020.4861

This study describes results of IgM and IgG antibody testing from throat swabs of newborns born to mothers with COVID-19 pneumonia. (Author)

20200518-10*

Possible Vertical Transmission of SARS-CoV-2 From an Infected Mother to Her Newborn. Dong L, Tian J, He S, et al (2020), JAMA (Journal of the American Medical Association) vol 323, no 18, 12 May 2020, pp 1846-1848
Available from: https://doi.org/10.1001/jama.2020.4621
Full URL: https://doi.org/10.1001/jama.2020.4621

This case report describes birth of an infant with elevated anti-SARS-CoV-2 IgM antibodies and cytokine levels to a mother with polymerase chain reaction-confirmed coronavirus disease 2019 (COVID-19) despite no physical contact. (Author)

20200515-8*

Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries: a modelling study. Roberton T, Carter ED, Chou VB, et al (2020), The Lancet Global Health vol 8, no 7, July 2020, pp E901-E908
Available from: https://doi.org/10.1016/S2214-109X(20)30229-1

Background
While the COVID-19 pandemic will increase mortality due to the virus, it is also likely to increase mortality indirectly. In this study, we estimate the additional maternal and under-5 child deaths resulting from the potential disruption of health systems and decreased access to food.
Methods

We modelled three scenarios in which the coverage of essential maternal and child health interventions is reduced by 9·8-51·9% and the prevalence of wasting is increased by 10-50%. Although our scenarios are hypothetical, we sought to reflect real-world possibilities, given emerging reports of the supply-side and demand-side effects of the pandemic. We used the Lives Saved Tool to estimate the additional maternal and under-5 child deaths under each scenario, in 118 low-income and middle-income countries. We estimated additional deaths for a single month and extrapolated for 3 months, 6 months, and 12 months.
Findings
Our least severe scenario (coverage reductions of 9·8-18·5% and wasting increase of 10%) over 6 months would result in 253 500 additional child deaths and 12 200 additional maternal deaths. Our most severe scenario (coverage reductions of 39·3-51·9% and wasting increase of 50%) over 6 months would result in 1 157 000 additional child deaths

and 56 700 additional maternal deaths. These additional deaths would represent an increase of 9·8-44·7% in under-5 child deaths per month, and an 8·3-38·6% increase in maternal deaths per month, across the 118 countries. Across our three scenarios, the reduced coverage of four childbirth interventions (parenteral administration of uterotonics, antibiotics, and anticonvulsants, and clean birth environments) would account for approximately 60% of additional maternal deaths. The increase in wasting prevalence would account for 18-23% of additional child deaths and reduced coverage of antibiotics for pneumonia and neonatal sepsis and of oral rehydration solution for diarrhoea would together account for around 41% of additional child deaths.

Interpretation

Our estimates are based on tentative assumptions and represent a wide range of outcomes. Nonetheless, they show that, if routine health care is disrupted and access to food is decreased (as a result of unavoidable shocks, health system collapse, or intentional choices made in responding to the pandemic), the increase in child and maternal deaths will be devastating. We hope these numbers add context as policy makers establish guidelines and allocate resources in the days and months to come.

Funding

Bill & Melinda Gates Foundation, Global Affairs Canada. (Author)

20200515-3*

Clinical Characteristics and Outcomes of Hospitalized and Critically Ill Children and Adolescents with Coronavirus Disease 2019 (COVID-19) at a Tertiary Care Medical Center in New York City. Chao JY, Derespina KM, Herold BC, et al (2020),

The Journal of Pediatrics vol 223, August 2020, pp 14-19.e2

Available from: https://doi.org/10.1016/j.jpeds.2020.05.006

Full URL: https://doi.org/10.1016/j.jpeds.2020.05.006

Objective

To describe the clinical profiles and risk factors for critical illness in hospitalized children and adolescents with COVID-19.

Study design

Children 1 month to 21 years with COVID-19 from a single tertiary care children's hospital between March 15-April 13, 2020 were included. Demographic and clinical data were collected.

Results

67 children tested positive for COVID-19; 21 (31.3%) were managed as outpatients. Of 46 admitted patients, 33 (72%) were admitted to the general pediatric medical unit and 13 (28%) to the pediatric intensive care unit (PICU). Obesity and asthma were highly prevalent but not significantly associated with PICU admission (p=0.99). Admission to the PICU was significantly associated with higher C-reactive protein, procalcitonin, and pro-B type natriuretic peptide levels and platelet counts (p<0.05 for all). Patients in the PICU were more likely to require high-flow nasal cannula (p=0.0001) and were more likely to have received Remdesivir through compassionate release (p<0.05). Severe sepsis and septic shock syndromes were observed in 7 (53.8%) PICU patients. Acute respiratory distress syndrome (ARDS) was observed in 10 (77%) PICU patients, 6 of whom (46.2%) required invasive mechanical ventilation for a median of 9 days. Of the 13 patients in the PICU, 8 (61.5%) were discharged home, and 4 (30.7%) patients remain hospitalized on ventilatory support at day 14. One patient died after withdrawal of life-sustaining therapy because of metastatic cancer.

Conclusions

We describe a higher than previously recognized rate of severe disease requiring PICU admission in pediatric patients admitted to the hospital with COVID-19.

The first reports of novel coronavirus disease 2019 (COVID-19) noted the infrequency of disease in children with one of the earliest studies including only 9 children under 14 years of age among 1,011 total patients (0.89%) (1,2). Since

then, multiple reports have described children affected by COVID-19 with varying degrees of severity. (3, 4, 5) Epidemiologic studies have consistently demonstrated that children are at lower risk of developing severe symptoms or critical illness compared with adults. (5,6) In a study of 2,143 pediatric patients in China with confirmed (n=731) or suspected (n=1412) COVID-19, over one-half had only mild illness, and <1% had severe or critical illness (5). In another study from China describing 36 children, no severe or critically ill case was observed. (6) The only study to describe children requiring admission to a pediatric intensive care unit (PICU) was a study from Spain of 365 children tested for COVID-19. (7) The authors found that 41 (11%) of children tested had virus detected; 25/41 (61%) required hospitalization, and 4/41 (16%) were admitted to the PICU. Details of clinical characteristics were not described. Overall, the incidence of critical illness in children with COVID-19 is not well known, with limited data on possible associated risk factors. The objectives of this study were (1) to describe the clinical profile of critically ill children with SARS-CoV-2 infection admitted to our tertiary care facility, and (2) to study the risk factors associated with critical illness. (Author)

20200515-2*

Delivery Room Preparedness and Early Neonatal Outcomes During COVID19 Pandemic in New York City. Perlman J, Oxford C, Chang C, et al (2020), Pediatrics vol 146, no 2, August 2020, e20201567
Available from: https://doi.org/10.1542/peds.2020-1567
Full URL: https://doi.org/10.1542/peds.2020-1567

Since the initial report of a novel Coronavirus SARS-CoV-2 in Wuhan in December 2019 there has been widespread dissemination of disease worldwide. The impact on the neonatal population has been reported almost exclusively from China. The study goal is to characterize for the first time in the United States, the delivery room (DR) management and early course of infants born to COVID19 positive mothers, during three weeks at the peak of the pandemic in NYC, and to describe the challenges and approaches developed to meet these excessive needs. (Author)

20200515-13*

COVID-19 in a 26-week preterm neonate. Piersigilli F, Carkeek K, Hocq C, et al (2020), The Lancet Child & Adolescent Health vol
4, no 6, June 2020, pp 476-478
Available from: https://doi.org/10.1016/S2352-4642(20)30140-1
Full URL: https://doi.org/10.1016/S2352-4642(20)30140-1

Reports the case of an extremely preterm infant with COVID-19. (MB)

20200515-12*

Maintaining safety and service provision in human milk banking: a call to action in response to the COVID-19 pandemic. Shenker N on behalf of the Virtual Collaborative Network of Human Milk Banks and Associations (2020), The Lancet Child & Adolescent Health vol 4, no 7, July 2020, pp 484-485
Available from: https://doi.org/10.1016/S2352-4642(20)30134-6

Calls for policy makers to ensure that neonatal nutrition is an essential focus during emergencies, for increased funding into research to optimise human milk banking and for investment in innovation across all aspects of milk banking systems during the COVID-19 pandemic. (MB)

20200515-1*

Caring for Newborns Born to Mothers with COVID-19: More Questions than Answers. Gupta M, Zupancic JAF, Pursley DM (2020), Pediatrics vol 146, no 2, August 2020, e2020001842
Available from: https://doi.org/10.1542/peds.2020-001842

Full URL: https://doi.org/10.1542/peds.2020-001842

Comments on research [1] into outcomes for 31 newborns born to mothers with COVID-19 over a 3-week period at their center in New York City. 1. Perlman J et al. Delivery room preparedness and early neonatal outcomes during COVID-19 pandemic in New York City. Pediatrics. 2020;146(2):e20201567 (MB)

20200514-9*

Is there evidence of intra-uterine vertical transmission potential of COVID-19 infection in samples tested by quantitative RT-PCR?. Cheruiyot I, Henry BM, Lippi G (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 249, June 2020, pp 100-101

Available from: https://doi.org/10.1016/j.ejogrb.2020.04.034

Full URL: https://doi.org/10.1016/j.ejogrb.2020.04.034

Systematic review of COVID-19 in pregnant women and the risk of intrauterine vertical transmission. The findings suggest that there is currently no evidence of mother-to-child transmission in the third trimester. The potential of transmission in the first and second trimesters is still unknown. (LDO)

20200514-8*

Oligohydramnion in COVID19. Aliji N, Aliu F (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 249, June 2020, p 102

Available from: https://doi.org/10.1016/j.ejogrb.2020.04.047

Full URL: https://doi.org/10.1016/j.ejogrb.2020.04.047

Discusses the case of a 27-year-old woman at 34 weeks' gestation who presented with oligohydramnios and symptoms of COVID-19. The patient underwent a caesarean section due to fetal distress. The mother later tested positive and the premature infant tested negative for the virus. (LDO)

20200514-7*

Obstetric network reorganization during the COVID-19 pandemic: Suggestions from an Italian regional model. Giannubilo SR, Giannella L, Carpini GD, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 249, June 2020, pp 103-105

Available from: https://doi.org/10.1016/j.ejogrb.2020.04.062

Full URL: https://doi.org/10.1016/j.ejogrb.2020.04.062

Discusses the obstetric network model used in Italy during the COVID-19 outbreak. The model includes separate hospital entrances and exits, local protocols for the triage of pregnant women with symptoms, single occupancy rooms, the use of personal protective equipment, restricted numbers of visitors, surgical masks during breastfeeding, the swabbing of all neonates born to positive or high suspicion mothers, and the discharge of asymptomatic women two days after delivery. (LDO)

20200514-65*

Coronavirus disease 2019 in pregnant women: A report based on 116 cases. Yan J, Guo J, Fan C, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) vol 223, no 1, July 2020, pp 111.e1-111.e14

Available from: https://doi.org/10.1016/j.ajog.2020.04.014

Full URL: https://doi.org/10.1016/j.ajog.2020.04.014

Background

The coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is a global public health emergency. Data on the effect of COVID-19 in pregnancy are limited to small case series.

Objectives
To evaluate the clinical characteristics and outcomes in pregnancy and the vertical transmission potential of SARS-CoV-2 infection.
Study Desigh
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. Evidence of vertical transmission was assessed by testing for SARS-CoV-2 in amniotic fluid, cord blood, and neonatal pharyngeal swab samples.
Results
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. Twenty-one of 99 patients (21.2%, 21/99) that had delivered had preterm birth, including six with preterm premature ruptured of membranes. The rate of spontaneous preterm birth before 37 weeks was 6.1% (6/99). There was one case of severe neonatal asphyxia that resulted in neonatal death. Eighty-six of the 100 neonates that had testing for SARS-CoV-2 had negative results, of these ten neonates had paired amniotic fluid and cord blood samples that were tested negative for SARS-CoV-2.
Conclusions
SARS-CoV-2 infection during pregnancy is not associated with an increased risk of spontaneous abortion and spontaneous preterm birth. There is no evidence of vertical transmission of SARS-CoV-2 infection when the infection manifests during the third-trimester of pregnancy. (Author)

20200514-60*

Evidence for and against vertical transmission for severe acute respiratory syndrome coronavirus 2. Lamouroux A, Attie-Bitach T, Martinovic J, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) vol 223, no 1, July 2020, pp 91.e1-91.e4
Available from: https://doi.org/10.1016/j.ajog.2020.04.039
Full URL: https://doi.org/10.1016/j.ajog.2020.04.039

COVID-19 can severely affect pregnant women Furthermore, issues regarding vertical transmission of severe acute respiratory syndrome coronavirus 2 are emerging. In patients and neonates who are showing symptoms of coronavirus disease 2019, real-time polymerase chain reaction of nasal and throat swabs, sputum, and feces is performed to detect the presence of severe acute respiratory syndrome coronavirus 2. In addition, real-time polymerase chain reaction of vaginal swabs, amniotic fluid, placenta, cord blood, neonatal blood, or breast milk for the detection of severe acute respiratory syndrome coronavirus 2 did not show substantial results. Viremia was present in 1% of adult patients who were showing symptoms of coronavirus disease 2019. Here, we reviewed 12 articles published between Feb. 10, 2020, and April 4, 2020, that reported on 68 deliveries and 71 neonates with maternal infection in the third trimester of pregnancy. To determine whether infection occurred congenitally or perinatally, perinatal exposure, mode of delivery, and time interval from delivery to the diagnosis of neonatal infection were considered. Neonates with severe acute respiratory syndrome coronavirus 2 infection are usually asymptomatic. In 4 cases, a diagnostic test for severe acute respiratory syndrome coronavirus 2 infection was performed within 48 hours of life. Furthermore, detection rates of real-time polymerase chain reaction and the interpretation of immunoglobulin M and immunoglobulin G antibodies levels in cord and neonatal blood were discussed in relation with the immaturity of the fetal and neonatal immune system. (Author)

20200514-6*

Re: Novel Coronavirus COVID-19 in late pregnancy: Outcomes of first nine cases in an inner city London hospital. Govind A, Essien S, Kartikeyan A, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 251, August 2020, pp 272-274

Available from: https://doi.org/10.1016/j.ejogrb.2020.05.004

Full URL: https://doi.org/10.1016/j.ejogrb.2020.05.004

Discusses the cases of nine mothers with COVID-19 who delivered at an inner-city London hospital. Three women delivered by emergency caesarean section, six women underwent elective caesarean section and one woman delivered vaginally. Only one of the nine infants tested positive for the virus. (LDO)

20200514-5*

COVID-19 during pregnancy: Potential risk for neurodevelopmental disorders in neonates?. Martins-Filho PR, Tanajura DM, Santos Jr HP, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 250, July 2020, pp 255-256

Available from: https://doi.org/10.1016/j.ejogrb.2020.05.015

Full URL: https://doi.org/10.1016/j.ejogrb.2020.05.015

The authors hypothesise that cytokine storms and hyperinflammation found in pregnant women with SARS-CoV-2 may increase the risk for neurodevelopmental disorders in neonates. (LDO)

20200514-36*

COVID-19 and Infant Formula Feeding: Frequently Asked Questions. Perinatal Services BC (2020), Perinatal Services BC 14 May 2020

Available from:
http://www.perinatalservicesbc.ca/Documents/Resources/Alerts/FAQ-Covid19-Formula-Feeding.pdf

Full URL: http://www.perinatalservicesbc.ca/Documents/Resources/Alerts/FAQ-Covid19-Formula-Feeding.pdf

This handout is intended to provide families who are using infant formula, or are thinking about doing so, with information on how to safely feed their baby during the COVID-19 pandemic. (Author)

20200514-2*

A Case Series of the 2019 Novel Coronavirus (SARS-CoV-2) in Three Febrile Infants in New York. Feld L, Belfer J, Kabra R, et al (2020), Pediatrics 13 May 2020, online

No abstract available

20200514-12*

COVID-19 and Breastfeeding: Frequently Asked Questions. Perinatal Services BC (2020), Perinatal Services BC 14 May 2020

Available from:
http://www.perinatalservicesbc.ca/Documents/Resources/Alerts/FAQ-Covid19-Breastfeeding.PDF

Full URL: http://www.perinatalservicesbc.ca/Documents/Resources/Alerts/FAQ-Covid19-Breastfeeding.PDF

This handout is intended to provide families with information about breastfeeding their baby / young child during the COVID-19 pandemic. (Author)

20200514-10*

Coronavirus: Children affected by rare Kawasaki-like disease. Anon (2020), BBC News 14 May 2020
Available from: https://www.bbc.co.uk/news/health-52648557
Full URL: https://www.bbc.co.uk/news/health-52648557

Reports on a rare inflammatory disease linked to coronavirus among children in the United Kingdom and United States of America. Symptoms include a rash, swollen glands in the neck and dry and cracked lips. (LDO)

20200514-1*

Unfavorable outcomes in pregnant patients with COVID-19 outside Wuhan, China. Huang W, Zhao Z, He Z, et al (2020), Journal of Infection vol 81, no 2, August 2020, E99-E101
Available from: https://doi.org/10.1016/j.jinf.2020.05.014
Full URL: https://doi.org/10.1016/j.jinf.2020.05.014

Correspondence reporting on 8 cases of SARS-CoV-2 infection during late pregnancy that resulted in severe maternal and neonatal complications. (MB)

20200513-4*

Proposal for prevention and control of the 2019 novel coronavirus disease in newborn infants. Li F, Feng ZC, Shi Y, et al (2020), Archives of Disease in Childhood: Fetal and Neonatal Edition vol 105, no 6, November 2020, pp 683-684
Available from: http://dx.doi.org/10.1136/archdischild-2020-318996
Full URL: http://dx.doi.org/10.1136/archdischild-2020-318996

Proposal for the prevention and control of COVID-19 in newborn infants. Discusses the preparation of the delivery or operating room, clinical manifestations of infected neonates, discharge requirements, the use of personal protective equipment and psychological support for parents and medical staff. This proposal will be continuously modified based on accumulated clinical evidence. (LDO)

20200513-30*

Detection of severe acute respiratory syndrome coronavirus 2 in placental and fetal membrane samples. Penfield CA, Brubaker SG, Limaye MA, et al (2020), American Journal of Obstetrics & Gynecology MFM vol 2, no 3, suppl, August 2020, 100133
Available from: https://doi.org/10.1016/j.ajogmf.2020.100133
Full URL: https://doi.org/10.1016/j.ajogmf.2020.100133

Study on the presence of SARS-CoV-2 in placental and fetal membrane samples in a series of COVID-19 positive mothers. Three out of 11 swabs tested positive for SARS-CoV-2. None of the infants tested positive or displayed symptoms of COVID-19 infection. This is the first study to demonstrate the presence of SARS-CoV-2 RNA in placental or membrane samples. (LDO)

20200513-16*

Safe delivery for pregnancies affected by COVID-19. Qi H, Luo X, Zheng Y, et al (2020), BJOG: An International Journal of Obstetrics and Gynaecology vol 127, no 8, July 2020, pp 927-929
Available from: https://doi.org/10.1111/1471-0528.16231
Full URL: https://doi.org/10.1111/1471-0528.16231

Discusses existing guidelines on the safe delivery of infants in pregnancies affected by COVID-19. Includes the timing of delivery, requirements for caesarean section, prevention of infection in the delivery room, anaesthesia and monitoring the neonate. (LDO)

20200512-3*

Hyperinflammatory shock in children during COVID-19 pandemic. Riphagen S, Gomez X, Gonzalez-Martinez C, et al (2020), The Lancet vol 395, no 10237, 23 May 2020, pp 1607-1608

Available from: https://doi.org/10.1016/S0140-6736(20)31094-1

Full URL: https://doi.org/10.1016/S0140-6736(20)31094-1

Describes an unprecedented cluster of eight children with hyperinflammatory shock, which the authors suggest represent a new phenomenon affecting previously asymptomatic children with SARS-CoV-2 infection manifesting as a hyperinflammatory syndrome with multiorgan involvement similar to Kawasaki disease shock syndrome. (MB)

20200512-20*

The importance of continuing breastfeeding during COVID-19: in support to the WHO statement on breastfeeding during the pandemic. Williams J, Namazova-Baranova L, Weber M, et al (2020), The Journal of Pediatrics vol 223, August 2020, pp 234-236

Available from: https://doi.org/10.1016/j.jpeds.2020.05.009

Full URL: https://doi.org/10.1016/j.jpeds.2020.05.009

Aims to provide guidance on breastfeeding and related safety measures during COVID-19, particularly in situations where a mother has or may have COVID-19. (MB)

20200512-11*

Characteristics and outcomes of pregnant women admitted to hospital with confirmed SARS-CoV-2 infection in UK: national population based cohort study. Knight M, Bunch K, Vousden N, et al on behalf of the UK Obstetric Surveillance System SARS-CoV-2 Infection in Pregnancy Collaborative Group (2020), BMJ vol 369, no 8251, 27 June 2020, m2107

Available from: https://doi.org/10.1136/bmj.m2107

Full URL: https://doi.org/10.1136/bmj.m2107

Objectives To describe a national cohort of pregnant women admitted to hospital with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in the UK, identify factors associated with infection, and describe outcomes, including transmission of infection, for mothers and infants.
Design Prospective national population based cohort study using the UK Obstetric Surveillance System (UKOSS).
Setting All 194 obstetric units in the UK.
Participants 427 pregnant women admitted to hospital with confirmed SARS-CoV-2 infection between 1 March 2020 and 14 April 2020.
Main outcome measures Incidence of maternal hospital admission and infant infection. Rates of maternal death, level 3 critical care unit admission, fetal loss, caesarean birth, preterm birth, stillbirth, early neonatal death, and neonatal unit admission.
Results The estimated incidence of admission to hospital with confirmed SARS-CoV-2 infection in pregnancy was 4.9 (95% confidence interval 4.5 to 5.4) per 1000 maternities. 233 (56%) pregnant women admitted to hospital with SARS-CoV-2 infection in pregnancy were from black or other ethnic minority groups, 281 (69%) were overweight or obese, 175 (41%) were aged 35 or over, and 145 (34%) had pre-existing comorbidities. 266 (62%) women gave birth or had a pregnancy loss; 196 (73%) gave birth at term. Forty one (10%) women admitted to hospital needed respiratory support, and five (1%) women died. Twelve (5%) of 265 infants tested positive for SARS-CoV-2 RNA, six of them within the first 12 hours after birth.
Conclusions Most pregnant women admitted to hospital with SARS-CoV-2 infection were in the late second or third trimester, supporting guidance for continued social distancing measures in later pregnancy. Most had good outcomes,

and transmission of SARS-CoV-2 to infants was uncommon. The high proportion of women from black or minority ethnic groups admitted with infection needs urgent investigation and explanation.
Study registration ISRCTN 40092247. (Author)

20200511-55*

Coronavirus Disease 2019 (COVID-19) and pregnancy: what obstetricians need to know. Rasmussen SA, Smulian JC, Lednicky JA, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) vol 222, no 5, May 2020, pp 415-426
Available from: https://doi.org/10.1016/j.ajog.2020.02.017
Full URL: https://doi.org/10.1016/j.ajog.2020.02.017

This expert review is aimed at practising obstetricians and highlights current research on COVID-19, SARS and MERS during pregnancy. The review includes information on infection control, diagnostic testing, in utero transmission and breastfeeding. (LDO)

20200507-9*

Coronavirus: Concerns for wellbeing of babies born in lockdown. Richardson H (2020), BBC News 7 May 2020
Available from: https://www.bbc.co.uk/news/education-52560388
Full URL: https://www.bbc.co.uk/news/education-52560388

Concerns for the wellbeing of babies born in lockdown are being raised, as parents struggle to access regular support services. (Author)

20200506-8*

Laboratory Findings of COVID-19 Infection are Conflicting in Different Age Groups and Pregnant Women: A Literature Review. Vakili S, Savardashtaki A, Jamalnia S, et al (2020), MedRxiv 29 April 2020, online
Available from: https://doi.org/10.1101/2020.04.24.20078568
Full URL: https://doi.org/10.1101/2020.04.24.20078568

Coronavirus disease 2019 (COVID-19), a new type and rapidly spread viral pneumonia, is now producing an outbreak of pandemic proportions. The clinical features and laboratory results of different age groups are different due to the general susceptibility of the disease. The laboratory findings of COVID-19 in pregnant women are also conflicting. Para-clinical investigations including laboratory tests and radiologic findings play an important role in early diagnosis and treatment monitoring of severe acute respiratory syndrome and coronavirus-2 (SARS-CoV-2). The majority of previous reports on the SARS-CoV-2 laboratory results were based on data from the general population and limited information is available based on age difference and pregnancy status. This review aimed to describe the COVID-19 laboratory findings in neonates, children, adults, elderly and pregnant women altogether for the first time. The most attracting and reliable markers of COVID-19 in patients were: normal C-reactive protein (CRP) and very different and conflicting laboratory results regardless of clinical symptoms in neonates, normal or temporary elevated CRP, conflicting WBC count results and procalcitonin elevation in children, lymphopenia and elevated lactate dehydrogenase (LDH) in adult patients, lymphopenia and elevated CRP and LDH in the elderly people and high CRP, leukocytosis and elevated neutrophil ratio in pregnant women. (Author) [This article is a preprint and has not been peer-reviewed. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.]

20200506-26*

Classification system and case definition for SARS-CoV-2 infection in pregnant women, fetuses, and neonates. Shah PS, Diambomba Y, Acharya G, et al (2020), Acta Obstetricia et Gynecologica Scandinavica vol 99, no 5, May 2020, pp 565-568

Available from: https://doi.org/10.1111/aogs.13870
Full URL: https://doi.org/10.1111/aogs.13870

The authors develop a classification system and case definition for maternal-fetal-neonatal SARS-CoV-2 infections. The classification system includes five categories for the likelihood of infection: (a) confirmed, (b) probable, (c) possible, (d) unlikely, and (e) not infected. (LDO)

20200506-1*

The curious case of COVID-19 in children. Gupta S, Malhotra N, Gupta N, et al (2020), The Journal of Pediatrics vol 222, July 2020, pp 258-259

Available from: https://doi.org/10.1016/j.jpeds.2020.04.062
Full URL: https://doi.org/10.1016/j.jpeds.2020.04.062

Correspondence presenting data on the epidemiological differences in childhood cases of three coronavirus diseases (SARS, MERS and COVID-19) and the H1N1 influenza pandemic (2009). (MB)

20200505-9*

Women's Rights in Childbirth Must be Upheld During the Coronavirus Pandemic. International Confederation of Midwives
(2020), The Hague, The Netherlands: International Confederation of Midwives 2020, 3 pages

Available from:
https://www.internationalmidwives.org/assets/files/news-files/2020/03/icm-statement_upholding-womens-rights-during-covid19-5e83ae2ebfe59.pdf

Guidance for midwives on how to uphold the rights of women and their newborns during the COVID-19 pandemic. Includes recommendations on consent, birth partners, breastfeeding and reproductive health care. (LDO)

20200505-4*

Atypical presentation of COVID-19 in young infants. Nathan N, Prevost B, Corvol H, et al (2020), The Lancet vol 395, no 10235, 9 May 2020, p 1481

Available from: https://doi.org/10.1016/S0140-6736(20)30980-6
Full URL: https://doi.org/10.1016/S0140-6736(20)30980-6

Describes the cases of five infants diagnosed with COVID-19 who were admitted to hospital with fever but no respiratory symptoms. (MB)

20200505-2*

Interim Guidance for Basic and Advanced Life Support in Children and Neonates With Suspected or Confirmed COVID-19. Topjian A, Aziz K, Kamath-Rayne BD, et al (2020), Pediatrics 4 May 2020, online

Available from: https://doi.org/10.1542/peds.2020-1405
Full URL: https://doi.org/10.1542/peds.2020-1405

Interim guidance from the American Heart Association (AHA), produced in collaboration with the American Academy of Pediatrics, American Association for Respiratory Care, American College of Emergency Physicians, The Society of Critical Care Anesthesiologists, and American Society of Anesthesiologists, and with the support of the American Association of Critical Care Nurses and National EMS Physicians, for the treatment of victims of cardiac arrest with suspected or confirmed COVID-19. (MB)

20200505-1*

Early Neonatal SARS-CoV-2 Infection Manifesting With Hypoxemia Requiring Respiratory Support. Sinelli MT, Paterlini G, Citterio M, et al (2020), Pediatrics 4 May 2020, online

Available from: https://doi.org/10.1542/peds.2020-1121

Full URL: https://doi.org/10.1542/peds.2020-1121

We describe a case of neonatal SARS-CoV-2 infection, diagnosed 3 days after birth, and manifesting with silent hypoxemia, requiring respiratory support. (Author)

20200504-2*

Coronavirus: Parents urged to keep up child vaccinations. Kleinman Z (2020), BBC News 2 May 2020

Available from: https://www.bbc.co.uk/news/health-52499701

Full URL: https://www.bbc.co.uk/news/health-52499701

NHS England says it is still offering essential vaccinations and is appealing to parents not to miss appointments for their children during the pandemic. (Author)

20200501-5*

Coronavirus: high-risk pregnancies could be missed due to pandemic, experts warn. Cowburn A (2020), The Independent 1 May 2020

Available from:

https://www.independent.co.uk/news/uk/politics/coronavirus-concerns-raised-highrisk-pregnancies-could-be-missed-due-to-pandemic-a9493856.html

Reports that Gill Walton, CEO of the Royal College of Midwives, has warned of a potential rise in stillbirths and neonatal deaths because high-risk pregnancies may be missed owing to a reluctance among pregnant women to present themselves to maternity services during the current coronavirus pandemic..However, she added that technology has meant that follow-ups on women who missed scans and appointments has improved through virtual contact between women and midwives and maternity services. Her comments were made during a session of Westminster's health and social care committee. (JSM)

20200501-1*

Vaccine Update. Public Health England (2020), London: PHE no 307, April 2020, pp 1-14

Available from:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/882560/PHE_11652_VU_307_April_2020.pdf

A special edition of Vaccine Update to mark World Immunization Week (WIW), which this year runs from 26th-30th April, and is the World Health Organization's annual celebration of immunisation, best practice, new advances and the work of immunisers, held with the aim of promoting the use of vaccines to protect people of all ages from disease, reflected in the name of this year's theme #VaccinesWork for All. In this, The International Year of the Nurse and Midwife, WHO and Public Health England acknowledge the crucial role played by nurses and midwives as advocates of vaccination throughout the life course. Includes sections on the delivery of immunisation services during the coronavirus pandemic, and vaccinations offered during the antenatal and postnatal periods. (JSM)

20200430-3*

US NICUs and donor milk banks brace for COVID-19. Furlow B (2020), The Lancet Child & Adolescent Health vol 4, no 5, May 2020, p 355

Available from: https://doi.org/10.1016/S2352-4642(20)30103-6

Full URL: https://doi.org/10.1016/S2352-4642(20)30103-6

Reports on preparations being made by neonatal intensive care units (NICUs) and donor human milk programmes across the United States to continue to provide services during the coronavirus disease 2019 (COVID-19) pandemic. (MB)

20200429-9*

Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected. Interim guidance. World Health Organization (2020), Geneva: WHO 13 March 2020

Available from:

https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected

This is the second edition (version 1.2) of this document, which was originally adapted from Clinical management of severe acute respiratory infection when MERS-CoV infection is suspected (WHO, 2019). It is intended for clinicians involved in the care of adult, pregnant, and paediatric patients with or at risk for severe acute respiratory infection (SARI) when infection with the COVID-19 virus is suspected. Considerations for paediatric patients and pregnant women are highlighted throughout the text. It is not meant to replace clinical judgment or specialist consultation but rather to strengthen clinical management of these patients and to provide up-to-date guidance. Best practices for infection prevention and control (IPC), triage and optimized supportive care are included. (Author)

20200429-7*

Frequently asked questions: Breastfeeding and COVID-19 for health care workers. World Health Organization (2020), Geneva: World Health Organization 28 April 2020

Available from:

https://www.who.int/docs/default-source/maternal-health/faqs-breastfeeding-and-covid-19.pdf?sfvrsn=d839e6c0_1

This FAQ complements the WHO interim guidance: Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected (13 March 2020 www.who.int/publications-detail/clinical-management-of-severe-acuterespiratory-infection-when-novel-coronaviruses-(ncov)-infection-is-suspected) and provides responses to questions that have arisen about the recommendations. The interim guidance and FAQ reflect: i. the available evidence regarding transmission risks of COVID-19 through breastmilk; ii. the protective effects of breastfeeding and skin-to-skin contact, and, iii. the harmful effects of inappropriate use of infant formula milk. The FAQ also draws on other WHO recommendations on Infant and Young Child Feeding and the Interagency Working Group Operational Guidance on Infant and Young Child Feeding in Emergencies. A decision tree shows how these recommendations may be implemented by health workers in maternity services and community settings, as part of daily work with mothers and families. www.who.int/news-room/q-a-detail/q-a-on-covid-19-and-breastfeeding. (Author)

20200429-5*

A call for action for COVID-19 surveillance and research during pregnancy. Buekens P, Alger J, Bréart G, et al (2020), The Lancet Global Health 22 April 2020, online

Available from: https://doi.org/10.1016/S2214-109X(20)30206-0

Calls for cooperation between countries in order to address the gaps in knowledge about COVID-19 and its effect on pregnant women and their babies. (MB)

20200429-37*

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Vertical Transmission in Neonates Born to Mothers With Coronavirus Disease 2019 (COVID-19) Pneumonia. Hu X, Gao J, Luo X, et al (2020), Obstetrics & Gynecology vol 136, no 1, July 2020, pp 65-67

Available from: https://doi.org/10.1097/AOG.0000000000003926

Full URL: https://doi.org/10.1097/AOG.0000000000003926

Research letter reporting on seven cases of Covid-19 during late pregnancy and subsequent neonatal outcomes. (MB)

20200428-26*

Coronavirus alert: Rare syndrome seen in UK children. Roberts M (2020), BBC News 27 April 2020

Available from: https://www.bbc.co.uk/news/health-52439005

Full URL: https://www.bbc.co.uk/news/health-52439005

Reports on severe and unusual symptoms in children that may be linked to COVID-19. Features include a high temperature, low blood pressure, inflammation of the heart and abnormal blood test results. 20 cases in England have been noted by clinicians so far. (LDO)

20200428-2*

SARS-CoV-2 Infection in Children. Lu X, Zhang L, Du H, et al (2020), New England Journal of Medicine vol 382, no 17, 23 April 2020, pp 1663-1665

Available from: http://dx.doi.org/10.1056/NEJMc2005073

Full URL: http://dx.doi.org/10.1056/NEJMc2005073

Correspondence describing a spectrum of illness in 1391 children with SARS-CoV-2 infection. (MB)

20200427-7*

Exclusive: National alert as 'coronavirus-related condition may be emerging in children'. West D (2020), Health Service Journal 27 April 2020, online

Available from: https://www.hsj.co.uk/

Full URL: https://www.hsj.co.uk/

A serious coronavirus-related syndrome may be emerging in the UK, according to an 'urgent alert' issued to doctors, following a rise in cases in the last two to three weeks, HSJ has learned. (Author)

20200427-4*

Managing COVID-19-Positive Maternal-Infant Dyads: An Italian Experience. Salvatori G, De Rose DU, Concato C, et al (2020), Breastfeeding Medicine vol 15, no 5, May 2020, pp 347-348

Available from: https://doi.org/10.1089/bfm.2020.0095

Full URL: https://doi.org/10.1089/bfm.2020.0095

Describes the management and breastfeeding experience of 32 COVID-19 positive mothers and their newborns. (MB)

20200427-37*

Neurosurgery in an infant with COVID-19. Carrabba G, Tariciotti L, Guez S, et al (2020), The Lancet vol 395, no 10234, 2 May 2020, p E76

Available from: https://doi.org/10.1016/S0140-6736(20)30927-2

Full URL: https://doi.org/10.1016/S0140-6736(20)30927-2

Case report of an 8-month-old baby with a complex hydrocephalus who had a shunt malfunction during the COVID-19 pandemic. (MB)

20200424-8*

Novel Coronavirus Infection in Hospitalized Infants Under 1 Year of Age in China. Wei M, Yuan J, Liu Y, et al (2020), JAMA (Journal of the American Medical Association) vol 323, no 13, 7 April 2020, pp 1313-1314

Available from: https://doi.org/10.1001/jama.2020.2131

Full URL: https://doi.org/10.1001/jama.2020.2131

This study characterizes the demographic, epidemiologic, and clinical characteristics of hospitalized infants diagnosed with coronavirus disease 2019 infection between December 8, 2019, and February 6, 2020, in China. (Author)

20200424-5*

Experience of Clinical Management for Pregnant Women and Newborns with Novel Coronavirus Pneumonia in Tongji Hospital, China.. Wang S, Zhou X, Lin X, et al (2020), Current Medical Science 26 March 2020, online

Available from: https://link.springer.com/article/10.1007/s11596-020-2174-4

Full URL: https://link.springer.com/article/10.1007/s11596-020-2174-4

Based on the New Diagnosis and Treatment Scheme for Novel Coronavirus Infected Pneumonia (Trial Edition 5), combined with our current clinical treatment experience, we recently proposed a revision of the first edition of 'Guidance for maternal and fetal management during pneumonia epidemics of novel coronavirus infection in the Wuhan Tongji Hospital'. This article focused on the issues of greatest concern of pregnant women including severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection diagnostic criteria, inspection precautions, drug treatment options, indications and methods of termination of pregnancy, postpartum fever, breastfeeding considerations, mode of mother-to-child transmission, neonatal isolation and advice on neonatal nursing, to provide valuable experience for better management of SARS-CoV-2 infection in pregnant women and newborns. (Author)

20200424-4*

International Perspectives Concerning Donor Milk Banking During the SARS-CoV-2 (COVID-19) Pandemic. Marinelli KA (2020), Journal of Human Lactation vol 36, no 3, August 2020, pp 492-497

Available from: https://doi.org/10.1177/0890334420917661

Full URL: https://doi.org/10.1177/0890334420917661

Reviews current information on donor milk banking during the current COVID-19 pandemic. (JSM)

20200424-3*

Safe Handling of Containers of Expressed Human Milk in all Settings During the SARS-CoV-2 (COVID-19) Pandemic. Marinelli KA, Lawrence RM (2020), Journal of Human Lactation vol 36, no 3, August 2020, pp 498-501

Available from: https://doi.org/10.1177/0890334420919083

Full URL: https://doi.org/10.1177/0890334420919083

Key Messages

With no evidence of virus in human milk, no guidance has been published concerning the disinfection of the outer surfaces of containers of expressed milk during the COVID-19 pandemic.

COVID-19 virus contaminates surfaces from respiratory droplet spread, persisting on some including plastic. Those expressing milk need to wear respiratory masks and practice effective pre-expression hand washing. Containers must be disinfected after milk expression with viricidal agents or appropriate bleach solutions before storage in milk banks, hospital wards, day care centers, or similar locations. (Author)

20200424-2*

Using the coronavirus pandemic as an opportunity to address the use of human milk and breastfeeding as lifesaving medical interventions. Spatz DL (2020), JOGNN: Journal of Obstetric, Gynecologic and Neonatal Nursing vol 49, no 3, May 2020, pp 225-226

Available from: https://www.jognn.org/article/S0884-2175(20)30042-3/pdf

Full URL: https://www.jognn.org/article/S0884-2175(20)30042-3/pdf

Editorial aiming to provide guidance regarding breastfeeding and COVID-19 and stressing the importance of promoting and protecting the use of human milk and breastfeeding. (JSM)

20200424-1*

COVID-19 vaginal delivery - A case report. Lowe B, Bopp B (2020), Australian and New Zealand Journal of Obstetrics and Gynaecology vol 60, no 3, June 2020, pp 465-466

Available from: https://obgyn.onlinelibrary.wiley.com/doi/epdf/10.1111/ajo.13173

Full URL: https://obgyn.onlinelibrary.wiley.com/doi/epdf/10.1111/ajo.13173

The novel coronavirus termed SARS-CoV-2 is a major public health challenge. Many maternity units around the country are currently considering management protocols for these patients. We report a case from a tertiary Australian hospital describing an uncomplicated vaginal birth in a SARS-CoV-2 positive mother. To our knowledge this is also the first case described of a mother with COVID-19 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. (Author)

20200423-76*

Baby Friendly Initiative Statement on infant feeding during the COVID-19 outbreak. UNICEF UK Baby Friendly Initiative (2020), UNICEF UK Baby Friendly Initiative 17 March 2020. 2 pages

Available from:
https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2020/03/Unicef-UK-Baby-Friendly-Initiative-statement-on-infant-feeding-during-the-Covid-19-outbreak-2.pdf

The Unicef UK Baby Friendly Initiative has received a number of queries regarding best practice for infant feeding during the Covid-19 outbreak. We suggest that all practitioners follow latest updates from the UK governments and the World Health Organization (WHO) as these could change as more information becomes available. (Author)

20200423-75*

Milk for your baby during the coronavirus pandemic. Joyce J (2020), Nottingham: La Leche League GB 26 March 2020

Available from: https://www.laleche.org.uk/milk-for-your-baby-during-the-coronavirus-pandemic/

Full URL: https://www.laleche.org.uk/milk-for-your-baby-during-the-coronavirus-pandemic/

Gives information to parents on feeding their babies in the current COVID-19 pandemic using several diiferent methods: exclusive formula feeding; partial breastfeeding; and exclusive breastfeeding. Addresses the issue of insufficient milk supply, which may be of concern. (JSM)

20200423-74*

Breastfeeding and Coronavirus Disease-2019. Ad interim indications of the Italian Society of Neonatology endorsed by the Union of European Neonatal & Perinatal Societies. Davanzo R, Moro G, Sandri F, et al (2020), Maternal & Child Nutrition 3 April 2020

Available from: https://doi.org/10.1111/mcn.13010
Full URL: https://doi.org/10.1111/mcn.13010

The recent COVID-19 pandemic has spread to Italy with heavy consequences on public health and economics. Besides the possible consequences of COVID-19 infection on a pregnant woman and the fetus, a major concern is related to the potential effect on neonatal outcome, the appropriate management of the mother-newborn dyad and finally the compatibility of maternal COVID-19 infection with breastfeeding. The Italian Society on Neonatology (SIN) after reviewing the limited scientific knowledge on the compatibility of breastfeeding in the COVID-19 mother and the available statements from Health Care Organizations, has issued the following indications that have been endorsed by the Union of European Neonatal & Perinatal Societies (UENPS). If a mother previously identified as COVID-19 positive or under investigation for COVID-19 is asymptomatic or paucisymptomatic at delivery, rooming-in is feasible and direct breastfeeding is advisable, under strict measures of infection control. On the contrary, when a mother with COVID-19 is too sick to care for the newborn, the neonate will be managed separately and fed fresh expressed breast milk, with no need to pasteurize it, as human milk is not believed to be a vehicle of COVID-19. We recognize that this guidance might be subject to change in the future when further knowledge will be acquired about the COVID-19 pandemic, the perinatal transmission of SARS-CoV-2 and clinical characteristics of cases of neonatal COVID-19. (Author)

20200423-73*

Update on coronavirus and breastfeeding. The Breastfeeding Network (2020), The Breasfeeding Network 22 April 2020

Available from: https://www.breastfeedingnetwork.org.uk/coronavirus/
Full URL: https://www.breastfeedingnetwork.org.uk/coronavirus/

The information about coronavirus and breastfeeding on this page is being checked regularly and will develop in response to guidelines and evidence. This page was last updated on 22nd April 2020.
Coronavirus 2019-nCoV or COVID-19 is a new respiratory illness that has not previously been seen in humans. The first coronavirus cases have been confirmed in the UK and the rising death toll worldwide is causing alarm and concern. This can be especially worrying for all parents with new babies and young children, including those who are worried about coronavirus and breastfeeding. (Author)

20200422-43*

SOGC Committee Opinion - COVID-19 in Pregnancy. Elwood C, Boucoiran I, VanSchalkwyk J, et al (2020), JOGC [Journal of Obstetrics and Gynaecology Canada] 31 March 2020, online

Available from: https://doi.org/10.1016/j.jogc.2020.03.012
Full URL: https://doi.org/10.1016/j.jogc.2020.03.012

Society of Obstetricians and Gynaecologists of Canada (SOGC) guidelines on COVID-19 in pregnancy. Includes recommendations on the antepartum, intrapartum and postpartum periods. Discusses appointments, protective equipment, fetal monitoring, caesarean delivery, skin-to-skin contact and breastfeeding. (LDO)

20200422-38*

In-Hospital Telehealth Supports Care for Neonatal Patients in Strict Isolation. Umoren RA, Gray MM, Handley S, et al (2020), American Journal of Perinatology vol 37, no 8, June 2020, pp 857-860

Available from: https://doi.org/10.1055/s-0040-1709687
Full URL: https://doi.org/10.1055/s-0040-1709687

The aim of this study is to determine the feasibility of 'in-hospital' inpatient telemedicine within a children's referral hospital to facilitate inpatient care activities such as interprofessional rounding and the provision of supportive services such as lactation consultations to pediatric patients in strict isolation. To test the feasibility of in-hospital video telemedicine, a dedicated telemedicine device was set up in the patient's room. This device and the accompanying Bluetooth stethoscope were used by the health care team located just outside the room for inpatient rounding and consultations from supportive services. Video telemedicine facilitated inpatient care and interactions with support services, reducing the number of health care providers with potential exposure to infection and decreasing personal protective equipment use. In the setting of strict isolation for highly infectious viral illness, telemedicine can be used for inpatient care activities such as interprofessional rounding and provision of supportive services. (Author)

20200422-37*

Neonatal Resuscitation and Postresuscitation Care of Infants Born to Mothers with Suspected or Confirmed SARS-CoV-2 Infection. Chandrasekharan P, Vento M, Trevisanuto D, et al (2020), American Journal of Perinatology vol 37, no 8, June 2020, pp 813-824
Available from: https://doi.org/10.1055/s-0040-1709688
Full URL: https://doi.org/10.1055/s-0040-1709688

The first case of novel coronavirus disease of 2019 (COVID-19) caused by severe acute respiratory syndrome-coronavirus 2 (SARS-CoV-2) was reported in November 2019. The rapid progression to a global pandemic of COVID-19 has had profound medical, social, and economic consequences. Pregnant women and newborns represent a vulnerable population. However, the precise impact of this novel virus on the fetus and neonate remains uncertain. Appropriate protection of health care workers and newly born infants during and after delivery by a COVID-19 mother is essential. There is some disagreement among expert organizations on an optimal approach based on resource availability, surge volume, and potential risk of transmission. The 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 postdischarge 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. (Author)

20200421-8*

Vitamin D, Covid-19 and Children. Molloy EJ, Murphy N (2020), Irish Medical Journal vol 113, no 4, April 2020, P59
Available from: http://imj.ie/wp-content/uploads/2020/04/Vitamin-D-Covid-19-and-Children.pdf
Full URL: http://imj.ie/wp-content/uploads/2020/04/Vitamin-D-Covid-19-and-Children.pdf

Discusses the link between vitamin D deficiency and respiratory infections in children. The authors make particular reference to the benefits of vitamin D supplementation in preterm infants. (LDO)

20200421-5*

COVID-19: How is Congress Addressing the Needs of Babies and Families?. Zero to Three (2020), Zero to Three 30 March 2020
Available from:
https://www.zerotothree.org/resources/3357-covid-19-how-is-congress-addressing-the-needs-of-babies-and-families

In the past two weeks, United States Congress has considered two major funding packages to begin to address the spreading economic impact of COVID-19. H.R. 6201 the Families First Coronavirus Response Act (FFCRA) was signed into law on March 18, 2020 and H.R. 748 the Coronavirus Aid, Relief, and Economic Security Act (CARES) was signed by the president on March 27, 2020. This analysis from Zero to Three highlights components of the two packages that affect early care and learning, family economic needs, basic family needs, and community supports for families under stress. (Author, edited)

20200421-4*

Coronavirus (COVID-19) information. Bliss (2020), London: Bliss 20 April 2020
Available from: https://www.bliss.org.uk/parents/support/coronavirus-covid-19-information
Full URL: https://www.bliss.org.uk/parents/support/coronavirus-covid-19-information

The latest evidence and guidance from Bliss for parents of sick or premature babies, about how changes during the coronavirus (COVID-19) pandemic may affect their baby and their stay in neonatal care. (JSM)

20200421-28*

The profile of peripheral blood lymphocyte subsets and serum cytokines in children with 2019 novel coronavirus pneumonia. Li H, Chen K, Liu M, et al (2020), Journal of Infection 20 April 2020, online
Available from: https://doi.org/10.1016/j.jinf.2020.04.001
Full URL: https://doi.org/10.1016/j.jinf.2020.04.001

Objectives
The study was aimed at investigating the characteristics of peripheral blood lymphocyte subsets and serum cytokines in children with 2019 novel coronavirus (2019-nCoV) pneumonia.
Methods
Children with 2019-nCoV pneumonia or with respiratory syncytial virus (RSV) pneumonia were included. Data including lymphocyte subsets and serum cytokines were collected and analyzed.
Results
56 patients were included in the study, 40 children with 2019-nCoV pneumonia and 16 children with RSV pneumonia. Compared with children with RSV pneumonia, patients with 2019-nCoV pneumonia had higher count of CD3+8+ lymphocyte, higher percentages of CD3+, CD3+8+ lymphocytes and a lower percentage of CD19+ lymphocyte. The serum IL-10 level was significantly higher in children with RSV pneumonia. One 2019-nCoV pneumonia child who was with an obvious increase of IL-10 developed severe pneumonia.
Conclusions
Immune response played a very important role in the development of 2019-nCoV pneumonia. The effective CD8+ T cell response might influence the severity of 2019-nCoV pneumonia. The adaptable change in IL-10 level might contribute to the relatively mild pneumonia symptoms in children with 2019-nCoV pneumonia and bacterial co-infection might be a risk factor of severe 2019-nCoV pneumonia. (Author)

20200421-21*

COVID-19 - guidance for neonatal settings [Last updated 12 May 2020]. Royal College of Paediatrics and Child Health (2020), London: RCPCH 9 April 2020
Available from:
https://www.rcpch.ac.uk/resources/covid-19-guidance-neonatal-settings#postnatal-contact-on-nnu-with-confirmed-covid-19-case

Provides guidance for neonatal settings during the coronavirus (COVID-19) outbreak. It has been produced with the British Association of Perinatal Medicine (BAPM). (Author, edited)

20200421-20*

The tiny premature baby who fought off coronavirus. Anon (2020), BBC News 21 April 2020
Available from: https://www.bbc.co.uk/news/uk-scotland-glasgow-west-52369708
Full URL: https://www.bbc.co.uk/news/uk-scotland-glasgow-west-52369708

Reports on the case of Peyton Maguire who was born prematurely at 3lbs 5oz and was diagnosed with Covid-19 at three weeks old. (LDO)

20200420-27*

Breast feeding at the time of COVID-19: do not forget expressed mother's milk, please. Davanzo R (2020), Archives of Disease in Childhood: Fetal and Neonatal Edition vol 105, no 4, July 2020, p 455
Available from: http://dx.doi.org/10.1136/archdischild-2020-319149
Full URL: http://dx.doi.org/10.1136/archdischild-2020-319149

This letter discusses mother to child transmission of COVID-19 and the safety of expressed mother's milk. The author recommends that breastfeeding should be promoted where possible, with basic preventive measures such as face masks and hand washing. In cases where breastfeeding is not recommended, it is suggested that expressed mother's milk should be considered due to its nutritional benefits. (LDO)

20200417-9*

Novel corona virus disease (COVID-19) in pregnancy: What clinical recommendations to follow?. Liang H, Acharya G (2020), Acta Obstetricia et Gynecologica Scandinavica vol 99, no 4, April 2020, pp 439-442
Available from: https://doi.org/10.1111/aogs.13836
Full URL: https://doi.org/10.1111/aogs.13836

This editorial discusses the prevention, diagnosis and management of COVID-19 in pregnancy. The authors also highlight the importance of mode of delivery and care of the newborn. (LDO)

20200417-8

That pesky nucleic acid molecule in a protein coat. Hanley J (2020), Journal of Health Visiting vol 8, no 4, April 2020

In March it seemed not only surreal but impossible to comprehend that the coronavirus would ever venture near our shores - and yet here it is. Jane Hanley looks at the effects of the pandemic on the emotional wellbeing of parents and professionals alike. (Author)

20200417-60*

Why is COVID-19 so mild in children?. Brodin P (2020), Acta Paediatrica 25 March 2020, online
Available from: https://doi.org/10.1111/apa.15271
Full URL: https://doi.org/10.1111/apa.15271

This editorial highlights the reasons for mild COVID-19 symptoms in children and infants. The author discusses immune systems, expression of enzyme receptors and the likelihood respiratory tract infections in children. (LDO)

20200417-6

A new normal for health visiting. Forbes L (2020), Journal of Health Visiting vol 8, no 4, April 2020

In this time of focus on public health, what role will community based workers play? How will we carry on our professional duties in a time of social distancing? (Author)

20200417-55*

Systematic review of COVID-19 in children shows milder cases and a better prognosis than adults. Ludvigsson JF (2020), Acta Paediatrica vol 109, no 6, June 2020, pp 1088-1095

Available from: https://doi.org/10.1111/apa.15270

Full URL: https://doi.org/10.1111/apa.15270

Aim

The coronavirus disease 2019 (COVID-19) pandemic has affected hundreds of thousands of people. Data on symptoms and prognosis in children are rare.

Methods

A systematic literature review was carried out to identify papers on COVID-19, which is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), using the MEDLINE and Embase databases between January 1 and March 18, 2020.

Results

The search identified 45 relevant scientific papers and letters. The review showed that children have so far accounted for 1%-5% of diagnosed COVID-19 cases, they often have milder disease than adults and deaths have been extremely rare. Diagnostic findings have been similar to adults, with fever and respiratory symptoms being prevalent, but fewer children seem to have developed severe pneumonia. Elevated inflammatory markers were less common in children, and lymphocytopenia seemed rare. Newborn infants have developed symptomatic COVID-19, but evidence of vertical intrauterine transmission was scarce. Suggested treatment included providing oxygen, inhalations, nutritional support and maintaining fluids and electrolyte balances.

Conclusions

The coronavirus disease 2019 has occurred in children, but they seemed to have a milder disease course and better prognosis than adults. Deaths were extremely rare. (Author)

20200417-5

Newly qualified health visitor: COVID-19 - a public health crisis. Boddy B (2020), Journal of Health Visiting vol 8, no 4, April 2020

Bethany Boddy explores the fast-changing public health emergency of COVID-19 and the health visitor response. (Author)

20200416-9*

The first case of COVID-19 infection in a 75-day-old infant in Jahrom City, south of Iran. Mogharab V, Pasha AMK, Javdani F, et al (2020), Journal of the Formosan Medical Association vol 119, no 5, May 2020, pp 995-997

Available from: https://doi.org/10.1016/j.jfma.2020.03.015

Full URL: https://doi.org/10.1016/j.jfma.2020.03.015

Correspondence reporting the case of a 75-day-old baby referred to a pediatric emergency department with severe dry cough, noisy breathing sounds (audible through stethoscope) and had displayed a high fever seven days previously, but this was responding well to treatment. This is the first known case of COVID-19 infection in an infant in Jahrom City. Fars Province, Iran. (JSM)

20200416-3*

Keeping children emotionally healthy during the covid-19 pandemic. Rider EK (2020), BMJ Opinion 14 April 2020, online

Available from:

https://blogs.bmj.com/bmj/2020/04/14/elizabeth-rider-keeping-children-emotionally-healthy-covid-19-pandemic

We must not lose sight of children and adolescents during and after the covid-19 pandemic, says Elizabeth A Rider. (Author)

20200416-13*

Pre-labor anorectal swab for SARS-CoV-2 in COVID-19 patients: is it time to think about it?. Carosso A, Cosma S, Borella F, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 249, June 2020, pp 98-99

Available from: https://doi.org/10.1016/j.ejogrb.2020.04.023

Full URL: https://doi.org/10.1016/j.ejogrb.2020.04.023

The authors report the first case of potential vertical transmission of SARS-CoV-2 from a pregnant woman to a newborn. Maternal and rectal stool swabs tested positive for SARS-CoV-2 which suggests the virus may enter the neonatal nasopharynx during vaginal delivery. It is suggested that pre-labour anorectal swabs should be taken from pregnant patients with COVID-19 in order to identify newborns at risk of perinatal infection. (LDO)

20200416-10*

Specialty guides for patient management during the coronavirus pandemic: Safeguarding infants during the coronavirus pandemic: the ICON programme. NHS England, NHS Improvement (2020), London: NHS England 2 April 2020. 2 pages

Available from:

https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0097-Specialty-guides-and-coronavirus_-Final-ICON-letter-for-midwives_v1-27-March.pdf

Joint correspondence from NHS England and NHS Improvement, to all maternity units and neonatal operational delivery networks, produced with the aim of preventing non-accidental injuries to infants during the COVID-19 pandemic. (JSM)

20200415-34*

Guidance for virtual infant feeding support and coronavirus (COVID-19). Guidance sheet 3: Postnatal conversations. UNICEF UK Baby Friendly Initiative (2020), Baby Friendly Initiative April 2020. 2 pages

Available from:

https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2020/04/Unicef-UK-Baby-Friendly-Initiative-Guidance-document-3-Postnatal-conversations.pdf?utm_source=Unicef_UK&utm_medium=Email&utm_campaign=bfi_AprilCovid19_uukloyalty

Guidance from the Unicef UK Baby Friendly Initiative on holding conversations in the postnatal period, for healthcare professionals delivering Baby Friendly services during the COVID-19 pandemic. (JSM)

20200415-33*

Guidance for virtual infant feeding support during the COVID-19 outbreak. Guidance sheet 2: Antenatal conversations. UNICEF UK Baby Friendly Initiative (2020), Baby Friendly Initiative April 2020. 1 page

Available from:

https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2020/03/Unicef-UK-Baby-Friendly-Initiative-Guidance-Sheet-2-Antenatal-Conversations.pdf?utm_source=Unicef_UK&utm_medium=Email&utm_campaign=bfi_AprilCovid19_uukloyalty

Guidance from the Unicef UK Baby Friendly Initiative on holding antenatal conversations, for healthcare professionals delivering Baby Friendly services during the COVID-19 pandemic. (JSM)

20200415-32*

Guidance for virtual infant feeding support during the COVID-19 outbreak. Guidance sheet 1: Planning a virtual conversation. UNICEF UK Baby Friendly Initiative (2020), Baby Friendly Initiative April 2020. 1 page

Available from:

https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2020/03/Unicef-UK-Baby-Friendly-Guidance-Sheet-1-Planning-A-Virtual-Conversation.pdf?utm_source=Unicef_UK&utm_medium=Email&utm_campaign=bfi_Apr

ilCovid19_uukloyalty
Guidance from the Unicef UK Baby Friendly Initiative on planning a virtual conversation, for healthcare professionals delivering Baby Friendly services during the COVID-19 pandemic. (JSM)

20200415-26*

Care of the Pregnant Woman with COVID-19 in Labor and Delivery: Anesthesia, Emergency cesarean delivery, Differential diagnosis in the acutely ill parturient, Care of the newborn, and Protection of the healthcare personnel. Ashokka B, Loh M-H, Tan CH, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) vol 223, no 1, July 2020, pp 66-74.e3
Available from: https://doi.org/10.1016/j.ajog.2020.04.005
Full URL: https://doi.org/10.1016/j.ajog.2020.04.005

Coronavirus disease 2019, caused by the severe acute respiratory syndrome coronavirus 2, has been declared a pandemic by the World Health Organization. As the pandemic evolves rapidly, there are data emerging to suggest that pregnant women diagnosed as having coronavirus disease 2019 can have severe morbidities (up to 9%). This is in contrast to earlier data that showed good maternal and neonatal outcomes. Clinical manifestations of coronavirus disease 2019 include features of acute respiratory illnesses. Typical radiologic findings consists of patchy infiltrates on chest radiograph and ground glass opacities on computed tomography scan of the chest. Patients who are pregnant may present with atypical features such as the absence of fever as well as leukocytosis. Confirmation of coronavirus disease 2019 is by reverse transcriptase-polymerized chain reaction from upper airway swabs. When the reverse transcriptase-polymerized chain reaction test result is negative in suspect cases, chest imaging should be considered. A pregnant woman with coronavirus disease 2019 is at the greatest risk when she is in labor, especially if she is acutely ill. We present an algorithm of care for the acutely ill parturient and guidelines for the protection of the healthcare team who is caring for the patient. Key decisions are made based on the presence of maternal and/or fetal compromise, adequacy of maternal oxygenation (SpO2 >93%) and stability of maternal blood pressure. Although vertical transmission is unlikely, there must be measures in place to prevent neonatal infections. Routine birth processes such as delayed cord clamping and skin-to-skin bonding between mother and newborn need to be revised. Considerations can be made to allow the use of screened donated breast milk from mothers who are free of coronavirus disease 2019. We present management strategies derived from best available evidence to provide guidance in caring for the high-risk and acutely ill parturient. These include protection of the healthcare workers caring for the coronavirus disease 2019 gravida, establishing a diagnosis in symptomatic cases, deciding between reverse transcriptase-polymerized chain reaction and chest imaging, and management of the unwell parturient. (Author)

20200415-24*

Baby friendly assessments during the COVID-19 outbreak. UNICEF UK Baby Friendly Initiative (2020), The Baby Friendly Initiative 30 March 2020. 2 pages
Available from:
https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2020/03/Baby-Friendly-assessments-during-the-Covid-19-outbreak.pdf?utm_source=Unicef_UK&utm_medium=Email&utm_campaign=bfi_AprilCovid19_uukloyalty

This document is intended to support Infant Feeding Leads/teams and senior staff to plan work related to Baby Friendly accreditation during the Covid-19 outbreak. (Author)

20200415-23*

Statement on infant feeding on neonatal units during the coronavirus (COVID-19) outbreak [Last updated: 14 May 2020]. UNICEF UK Baby Friendly Initiative (2020), The Baby Friendly Initiative 2 April 2020. 3 pages
Available from:
https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2020/04/Unicef-UK-Baby-Friendly-Initiative-

statement-on-infant-feeding-on-neonatal-units-during-the-Covid-19-outbreak.pdf
Position statement from the Unicef UK Baby Friendly Initiative on breastfeeding and bottle feeding in neonatal intensive care units, for healthcare professionals looking after mothers and their babies during the coronavirus (COVID-19) outbreak. (JSM)

20200415-22*

Statement on infant feeding during the coronavirus (COVID-19) outbreak [Last updated 14 May 2020]. UNICEF UK Baby Friendly Initiative (2020), The Baby Friendly Initiative 2 April 2020. 3 pages
Available from:
https://www.unicef.org.uk/babyfriendly/wp-content/uploads/sites/2/2020/04/Unicef-UK-Baby-Friendly-Initiative-statement-on-infant-feeding-during-the-Covid-19-outbreak.pdf
Position statement from the Unicef UK Baby Friendly Initiative on breastfeeding and bottle feeding, for health professionals caring for mothers and their babies during the current coronavirus (COVID-19) outbreak. (JSM)

20200414-6*

Coronavirus and your maternity care. AIMS (2020), AIMS 11 April 2020
Available from: https://www.aims.org.uk/information/item/coronavirus
Full URL: https://www.aims.org.uk/information/item/coronavirus
Information from the Association for Improvements in the Maternity Services (AIMS) for pregnant women concerned about their maternity care in the current coronavirus (COVID-19) pandemic. (JSM)

20200414-2*

Should Infants Be Separated from Mothers with COVID-19? First, Do No Harm. Stuebe A (2020), Breastfeeding Medicine vol 15, no 5, May 2020, pp 351-352
Available from: https://doi.org/10.1089/bfm.2020.29153.ams
Full URL: https://doi.org/10.1089/bfm.2020.29153.ams
Discusses the implications for breastfeeding of temporarily separating infants from mothers with suspected or confirmed COVID-19 in order to reduce the risk of transmission from mother to baby. (MB)

20200413-1*

Coronavirus while pregnant or giving birth: here's what you need to know. Dahlen H, Ellwood D (2020), The Conversation 16 March 2020, online
Available from:
https://theconversation.com/coronavirus-while-pregnant-or-giving-birth-heres-what-you-need-to-know-133619
Full URL:
https://theconversation.com/coronavirus-while-pregnant-or-giving-birth-heres-what-you-need-to-know-133619
Summarises the key messages for pregnant women in the current coronavirus (COVID-19) pandemic, from trusted health sources such as the World Health Organization, the Royal College of Obstetricians and Gynaecologists etc. (JSM)

20200409-10*

Epidemiology of COVID-19 Among Children in China. Dong Y, Mo X, Hu Y, et al (2020), Pediatrics 8 April 2020, online
OBJECTIVE: To identify the epidemiological characteristics and transmission patterns of pediatric patients with the 2019 novel coronavirus disease (COVID-19) in China.
METHODS: Nationwide case series of 2135 pediatric patients with COVID-19 reported to the Chinese Center for Disease Control and Prevention from January 16, 2020, to February 8, 2020, were included. The epidemic curves were constructed by key dates of disease onset and case diagnosis. Onset-to-diagnosis curves were constructed by fitting a

log-normal distribution to data on both onset and diagnosis dates.
RESULTS: There were 728 (34.1%) laboratory-confirmed cases and 1407 (65.9%) suspected cases. The median age of all patients was 7 years (interquartile range: 2-13 years), and 1208 case patients (56.6%) were boys. More than 90% of all patients had asymptomatic, mild, or moderate cases. The median time from illness onset to diagnoses was 2 days (range: 0-42 days). There was a rapid increase of disease at the early stage of the epidemic, and then there was a gradual and steady decrease. The disease rapidly spread from Hubei province to surrounding provinces over time. More children were infected in Hubei province than any other province.
CONCLUSIONS: Children of all ages appeared susceptible to COVID-19, and there was no significant sex difference. Although clinical manifestations of children's COVID-19 cases were generally less severe than those of adult patients, young children, particularly infants, were vulnerable to infection. The distribution of children's COVID-19 cases varied with time and space, and most of the cases were concentrated in Hubei province and surrounding areas. Furthermore, this study provides strong evidence of human-to-human transmission. (Author)

20200407-14*

Coronavirus Disease 2019 (COVID-19) Pandemic and Pregnancy. Dashraath P, Wong JLJ, Lim MXK, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) vol 222, no 6, June 2020, pp 521-531
Available from: https://doi.org/10.1016/j.ajog.2020.03.021
Full URL: https://doi.org/10.1016/j.ajog.2020.03.021

The current coronavirus disease 2019 (COVID-19) pneumonia pandemic, caused by the severe acute respiratory syndrome 2 (SARS-CoV-2) virus, is spreading globally at an accelerated rate, with a basic reproduction number (R0) of 2 - 2.5, indicating that 2 - 3 persons will be infected from an index patient. A serious public health emergency, it is particularly deadly in vulnerable populations and communities in which healthcare providers are insufficiently prepared to manage the infection. As of March 16, 2020, there are more than 180,000 confirmed cases of COVID-19 worldwide, with over 7,000 related deaths. The SARS-CoV-2 virus has been isolated from asymptomatic individuals, and affected patients continue to be infectious two weeks after cessation of symptoms. The substantial morbidity and socioeconomic impact have necessitated drastic measures across all continents, including nationwide lockdowns and border closures.
Pregnant women and their fetuses represent a high-risk population during infectious disease outbreaks. To date, the outcomes of 55 pregnant women infected with COVID-19 and 46 neonates have been reported in the literature, with no definite evidence of vertical transmission. Physiological and mechanical changes in pregnancy increase susceptibility to infections in general, particularly when the cardiorespiratory system is affected, and encourage rapid progression to respiratory failure in the gravida. Furthermore, the pregnancy bias towards T-helper 2 (Th2) system dominance which protects the fetus, leaves the mother vulnerable to viral infections, which are more effectively contained by the Th1 system. These unique challenges mandate an integrated approach to pregnancies affected by SARS-CoV-2.
Here we present a review of COVID-19 in pregnancy, bringing together the various factors integral to the understanding of pathophysiology and susceptibility, diagnostic challenges with real-time reverse transcriptase polymerase chain reaction (RT-PCR) assays, therapeutic controversies, intrauterine transmission and maternal-fetal complications. We discuss the latest options in antiviral therapy and vaccine development, including the novel use of chloroquine in the management of COVID-19. Fetal surveillance, in view of the predisposition to growth restriction and special considerations during labor and delivery are addressed. Additionally, we focus on keeping frontline obstetric care providers safe while continuing to provide essential services. Our clinical service model is built around the principles of workplace segregation, responsible social distancing, containment of cross-infection to healthcare providers, judicious use of personal protective equipment and telemedicine. Our aim is to share a framework which

can be adopted by tertiary maternity units managing pregnant women in the flux of a pandemic while maintaining the safety of the patient and healthcare provider at its core. (Author)

20200406-5*

Neonatal Early-Onset Infection With SARS-CoV-2 in 33 Neonates Born to Mothers With COVID-19 in Wuhan, China.
Zeng L, Xia S, Yuan W, et al (2020), JAMA Pediatrics 26 March 2020, online
Available from: http://jamanetwork.com/article.aspx?doi=10.1001/jamapediatrics.2020.0878
Full URL: http://jamanetwork.com/article.aspx?doi=10.1001/jamapediatrics.2020.0878

The coronavirus disease 2019 (COVID-19) has spread rapidly across the world. With the sharp increase in the number of infections, the number of pregnant women and children with COVID-19 is also on the rise. However, only 19 neonates born to affected mothers have been investigated, and to our knowledge, no information on early-onset infection in newborns has been published in previous studies.

Methods

In this cohort study, all neonates born to mothers with COVID-19 were recruited from Wuhan Children's Hospital, in Wuhan, Hubei Province, China. This study was approved by the local medical ethics committee. Written informed consent was obtained from the neonates' parents. The diagnosis and management of newborns with or at risk of COVID-19 were in accordance with guidelines provided by the National Health Commission and the Chinese Perinatal-Neonatal SARS-CoV-2 Committee.

Data regarding demographic, epidemiologic, and clinical features were obtained from the medical records system. In addition, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) real-time reverse transcriptase-polymerase chain reaction tests (Novel Coronavirus PCR Fluorescence Diagnostic Kit [BGI]) were conducted using nasopharyngeal and anal swab samples. Data were collected from January 2020 to February 2020. All statistical analyses were performed in Stata version 15.0 (StataCorp).

Results

Thirty-three neonates born to mothers with COVID-19, including 3 neonates with COVID-19, were identified (Table). The most common symptom was shortness of breath (4 of 33 neonates). Radiographic findings were nonspecific. No deaths were reported.

We provide details of the 3 infected neonates (Figure). Patient 1 was born at 40 weeks' gestation. The delivery was by cesarean delivery because of meconium-stained amniotic fluid and confirmed maternal COVID-19 pneumonia. On day 2 of life, the infant experienced lethargy and fever, with unremarkable physical examination results, and was moved to the neonatal intensive care unit. A chest radiographic image showed pneumonia, but other laboratory tests (except procalcitonin) were normal. Nasopharyngeal and anal swabs were positive for SARS-CoV-2 on days 2 and 4 of life and negative on day 6.

Patient 2 was born at 40 weeks' and 4 days' gestation by cesarean delivery because of confirmed maternal COVID-19 pneumonia. He presented with lethargy, vomiting, and fever. A physical examination was unremarkable. Laboratory tests showed leukocytosis, lymphocytopenia, and an elevated creatine kinase-MB fraction. A chest radiographic image showed pneumonia. Nasopharyngeal and anal swabs were positive for SARS-CoV-2 on days 2 and 4 of life and negative on day 6.

Patient 3 was born at 31 weeks' and 2 days' gestation by cesarean delivery because of fetal distress and confirmed maternal COVID-19 pneumonia. Resuscitation was required. The infant's Apgar scores were 3, 4, and 5 at 1, 5, and 10 minutes after birth. Neonatal respiratory distress syndrome and pneumonia confirmed by chest radiographic image on admission resolved on day 14 of life after treatment with noninvasive ventilation, caffeine, and antibiotics. He also had suspected sepsis, with an Enterobacter agglomerates-positive blood culture, leukocytosis, thrombocytopenia (11 cells × 103/μL; to convert to cells × 109/L, multiply by 1.0), and coagulopathy (prothrombin time, 21 seconds; activated partial thromboplastin time, 81.9 seconds), which improved with antibiotic treatment. Nasopharyngeal and anal swabs were positive for SARS-CoV-2 on days 2 and 4 of life and negative on day 7.

Discussion
Consistent with previous studies, the clinical symptoms from 33 neonates with or at risk of COVID-19 were mild and outcomes were favorable. Of the 3 neonates with symptomatic COVID-19, the most seriously ill neonate may have been symptomatic from prematurity, asphyxia, and sepsis, rather than SARS-CoV-2 infection.
In this cohort, 3 of 33 infants (9%) presented with early-onset SARS-CoV-2 infection. Because strict infection control and prevention procedures were implemented during the delivery, it is likely that the sources of SARS-CoV-2 in the neonates' upper respiratory tracts or anuses were maternal in origin. Although 2 recent studies have shown that there were no clinical findings or investigations suggestive of COVID-19 in neonates born to affected mothers, and all samples, including amniotic fluid, cord blood, and breast milk, were negative for SARS-CoV-2, the vertical maternal-fetal transmission cannot be ruled out in the current cohort. Therefore, it is crucial to screen pregnant women and implement strict infection control measures, quarantine of infected mothers, and close monitoring of neonates at risk of COVID-19. (Author, edited)

20200403-5*
'I just had a baby - now I'm going to the frontline'. Kwon T (2020), BBC News 3 April 2020
Available from:
https://www.bbc.co.uk/news/av/world-us-canada-52137166/i-just-had-a-baby-now-i-m-going-to-the-frontline
Full URL:
https://www.bbc.co.uk/news/av/world-us-canada-52137166/i-just-had-a-baby-now-i-m-going-to-the-frontline
Presents the personal experience of Tre Kwon, a nurse fighting to save lives in New York, the epicenter of the US' fight against COVID-19. She tells how, as coronavirus overwhelmed hospitals, she ended her maternity leave early and has had to forgo her plans to breastfeed her daughter for as long as she intended, in order to return to work and join her co-workers in the fight against this disease. She expresses concern about the lack of personal protective equipment (PPE) and describes her working conditions. Includes audio-visual footage. (JSM)

20200402-32*
Pregnancy and coronavirus: information for pregnant women and new mums. Anon (2020), Tommy's Pregnancy Hub 1 April 2020
Available from:
https://www.tommys.org/pregnancy-information/im-pregnant/pregnancy-and-coronavirus-information-pregnant-women-and-new-mums
Consumer information from Tommy's presented in a question and answer format, aimed at pregnant women and new mothers, based on the latest guidance on coronaivirus (COVID-19), from the Royal College of Obstetricians and Gynaecologists (RCOG). (JSM)

20200331-21*
The first infant case of COVID-19 acquired from a secondary transmission in Vietnam. Le HT, Nguyen LV, Tran DM, et al (2020), The Lancet Child & Adolescent Health vol 4, no 5, May 2020, pp 405-406
Available from: https://doi.org/10.1016/S2352-4642(20)30091-2
Full URL: https://doi.org/10.1016/S2352-4642(20)30091-2
Reports the first infant case of COVID-19 acquired from a secondary transmission in Vietnam. (MB)

20200330-2*
Anxiety, anger and hope as women face childbirth during coronavirus pandemic. Kahn M, Cristoferi C (2020), Reuters 27 March 2020, online
Available from:
https://www.reuters.com/article/us-health-coronavirus-europe-childbirth/anxiety-anger-and-hope-as-women-face-childbirth-during-coronavirus-pandemic-idUSKBN21E1O2?feedType=RSS&feedName=healthNews&utm_source=fee

dburner&utm_medium=feed&utm_campaign=Feed%3A+reuters%2FhealthNews+%28Reuters+Health+News%29
Pregnant women share their fears about giving birth and caring for their newborn during the coronavirus pandemic. (MB)

20200326-3*

Clinical and epidemiological features of 36 children with coronavirus disease 2019 (COVID-19) in Zhejiang, China: an observational cohort study. Qiu H, Wu J, Long L, et al (2020), The Lancet Infectious Diseases 25 March 2020, online
Available from: https://doi.org/10.1016/S1473-3099(20)30198-5
Full URL: https://doi.org/10.1016/S1473-3099(20)30198-5

Background
Since December, 2019, an outbreak of coronavirus disease 2019 (COVID-19) has spread globally. Little is known about the epidemiological and clinical features of paediatric patients with COVID-19.

Methods
We retrospectively retrieved data for paediatric patients (aged 0-16 years) with confirmed COVID-19 from electronic medical records in three hospitals in Zhejiang, China. We recorded patients' epidemiological and clinical features.
Findings
From Jan 17 to March 1, 2020, 36 children (mean age 8·3 [SD 3·5] years) were identified to be infected with severe acute respiratory syndrome coronavirus 2. The route of transmission was by close contact with family members (32 [89%]) or a history of exposure to the epidemic area (12 [33%]); eight (22%) patients had both exposures. 19 (53%) patients had moderate clinical type with pneumonia; 17 (47%) had mild clinical type and either were asymptomatic (ten [28%]) or had acute upper respiratory symptoms (seven [19%]). Common symptoms on admission were fever (13 [36%]) and dry cough (seven [19%]). Of those with fever, four (11%) had a body temperature of 38·5°C or higher, and nine (25%) had a body temperature of 37·5-38·5°C. Typical abnormal laboratory findings were elevated creatine kinase MB (11 [31%]), decreased lymphocytes (11 [31%]), leucopenia (seven [19%]), and elevated procalcitonin (six [17%]). Besides radiographic presentations, variables that were associated significantly with severity of COVID-19 were decreased lymphocytes, elevated body temperature, and high levels of procalcitonin, D-dimer, and creatine kinase MB. All children received interferon alfa by aerosolisation twice a day, 14 (39%) received lopinavir-ritonavir syrup twice a day, and six (17%) needed oxygen inhalation. Mean time in hospital was 14 (SD 3) days. By Feb 28, 2020, all patients were cured.
Interpretation
Although all paediatric patients in our cohort had mild or moderate type of COVID-19, the large proportion of asymptomatic children indicates the difficulty in identifying paediatric patients who do not have clear epidemiological information, leading to a dangerous situation in community-acquired infections.
Funding
Ningbo Clinical Research Center for Children's Health and Diseases, Ningbo Reproductive Medicine Centre, and Key Scientific and Technological Innovation Projects of Wenzhou. (Author)

20200325-3*

Clinical features and obstetric and neonatal outcomes of pregnant patients with COVID-19 in Wuhan, China: a retrospective, single-centre, descriptive study. Yu N, Li W, Kang Q, et al (2020), The Lancet Infectious Diseases vol 20, no 5, May 2020, pp 559-564
Available from: https://doi.org/10.1016/S1473-3099(20)30176-6
Full URL: https://doi.org/10.1016/S1473-3099(20)30176-6

Background
In December, 2019, coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) emerged in Wuhan, China. The number of affected pregnant women is increasing, but scarce information is available about the clinical features of COVID-19 in pregnancy. This study aimed to clarify the clinical features and obstetric and neonatal outcomes of pregnant patients with COVID-19.
Methods
In this retrospective, single-centre study, we included all pregnant women with COVID-19 who were admitted to Tongji Hospital in Wuhan, China. Clinical features, treatments, and maternal and fetal outcomes were assessed.
Findings
Seven patients, admitted to Tongji Hospital from Jan 1, to Feb 8, 2020, were included in our study. The mean age of the patients was 32 years (range 29-34 years) and the mean gestational age was 39 weeks plus 1 day (range 37 weeks to 41 weeks plus 2 days). Clinical manifestations were fever (six [86%] patients), cough (one [14%] patient), shortness of breath (one [14%] patient), and diarrhoea (one [14%] patient). All the patients had caesarean section within 3 days of clinical presentation with an average gestational age of 39 weeks plus 2 days. The final date of follow-up was Feb 12, 2020. The outcomes of the pregnant women and neonates were good. Three neonates were tested for SARS-CoV-2 and one neonate was infected with SARS-CoV-2 36 h after birth.
Interpretation
The maternal, fetal, and neonatal outcomes of patients who were infected in late pregnancy appeared very good, and these outcomes were achieved with intensive, active management that might be the best practice in the absence of more robust data. The clinical characteristics of these patients with COVID-19 during pregnancy were similar to those of non-pregnant adults with COVID-19 that have been reported in the literature.
Funding
National Natural Science Foundation of China, Hubei Provincial Natural Science Foundation of China. (Author)

20200324-26*

Understanding the coronavirus. Duncan D, Lyall G (2020), British Journal of Midwifery vol 28, no 3, March 2020
The death of a baby is one of the most profoundly traumatic experiences a family can experience. Chris Binnie from Beyond Bea Charity discusses why accepting support is better than being silent (Author)

20200318-5*

Infants Born to Mothers With a New Coronavirus (COVID-19). Chen Y, Peng H, Wang L, et al (2020), Frontiers in Pediatrics 16
March 2020, online
Available from: https://doi.org/10.3389/fped.2020.00104
Full URL: https://doi.org/10.3389/fped.2020.00104
A novel viral respiratory disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is responsible for an epidemic of the coronavirus disease 2019 (COVID-19) in cases in China and worldwide. Four full-term, singleton infants were born to pregnant women who tested positive for COVID-19 in the city of Wuhan, the capital of Hubei province, China, where the disease was first identified. Of the three infants, for who consent to be diagnostically tested was provided, none tested positive for the virus. None of the infants developed serious clinical symptoms such as fever, cough, diarrhea, or abnormal radiologic or hematologic evidence, and all four infants were alive at the time of hospital discharge. 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. This case report describes the clinical course of four live born infants, born to pregnant women with the COVID-19 infection. (13 references) (Author)

20200309-71*

Breastfeeding and Respiratory Antivirals: Coronavirus and Influenza. Anderson PO (2020), Breastfeeding Medicine vol 15, no 3, March 2020, p 128

Available from: https://doi.org/10.1089/bfm.2020.29149.poa

Full URL: https://doi.org/10.1089/bfm.2020.29149.poa

Provides an overview of the options for antiviral drugs to treat influenza and coronavirus and their safety for use in women who are breastfeeding. (MB)

20200305-163*

'No evidence' coronavirus can be passed to child late in pregnancy. Ford S (2020), Nursing Times 17 February 2020

There is currently no evidence that the novel coronavirus disease causes severe adverse outcomes in neonates or that it can pass to the child while in the womb, according to preliminary studies. (Author)

20200210-29*

A contingency plan for the management of the 2019 novel coronavirus outbreak in neonatal intensive care units. Wang J, Qi H, Bao L, et al (2020), The Lancet Child & Adolescent Health 7 February 2020, online

Available from: https://doi.org/10.1016/S2352-4642(20)30040-7

Full URL: https://doi.org/10.1016/S2352-4642(20)30040-7

The authors present a contingency plan for the 2019-nCoV outbreak in NICUs, focussing mainly on diagnostic and discharge criteria, treatment, prevention, and control strategies. (MB)

20200206-32*

Coronavirus: Newborn becomes youngest person diagnosed with virus. Anon (2020), BBC News 6 February 2020

Available from: https://www.bbc.co.uk/news/world-asia-china-51395655

Full URL: https://www.bbc.co.uk/news/world-asia-china-51395655

Reports that a 30-hour-old baby in China has been diagnosed with coronavirus, the youngest case recorded so far. States that the baby's mother had tested positive for the illness while still pregnant. It is not known if the baby became infected in the womb or after birth. (JSM)