



Covid-19 in neonates, pregnancy and paediatrics: May/June 2021

A selection of recent guidelines and evidence.

Includes vaccines in pregnancy.

General

Vaccinations

Covid-19 in neonates

Covid-19 in pregnancy/birth

➤ Vertical Transmission

Covid-19 in paediatrics

Maternal Mental Health

Child Mental Health

Domestic Abuse

General

[COVID-19 in Women's health: Epidemiology](#). A review.

Best practice & research. Clinical obstetrics & gynaecology; Jun 2021; vol. 73 ; p. 81-90

Jardine, Jennifer; Morris, Edward

Abstract: The disease COVID-19 emerged in late 2019 in Wuhan, China, and rapidly spread, causing a pandemic that is ongoing and has resulted in more than two million deaths worldwide. COVID-19 is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which spreads effectively by direct contact with an infected person or contaminated surface, droplet or aerosol transmission. Vertical transmission, if it does occur, is rare. Among women of childbearing age, most will have mild or asymptomatic infection; severe illness is uncommon. Severe illness is more common in the later stages of pregnancy, when it is associated with complications, including intensive care admission, maternal death and an increased risk of iatrogenic preterm birth. Women who are older, from minority ethnic groups, who are overweight or obese, who have comorbidities or who live with socioeconomic deprivation are more likely to experience severe illness than women without these characteristics.

[Labour and birth](#) (UK review)

Best practice & research. Clinical obstetrics & gynaecology; Jun 2021; vol. 73 ; p. 91-103

Ross-Davie, Mary et al.

This chapter describes the national guidance for care during labour and childbirth in the United Kingdom during the COVID-19 pandemic. The content largely draws attention on the guidance developed by the Royal College of Obstetricians (RCOG) and the Royal College of Midwives (RCM), and specific guidance on infection prevention and control measures from Public Health England.

Vaccinations

[COVID-19: Pregnancy issues and antenatal care: Vaccines](#)

UpToDate, 14 May 2021

The latest evidence summary.

[The coronavirus disease 2019 vaccine in pregnancy: risks, benefits, and recommendations.](#)

American journal of obstetrics and gynecology; May 2021; vol. 224 (no. 5); p. 484-495

Stafford, Irene A; Parchem, Jacqueline G; Sibai, Baha M.

Abstract (part): Although pregnant women are at higher risk of severe coronavirus disease 2019-related illness, clinical trials for the available vaccines excluded pregnant and lactating women. The safety and efficacy of the vaccines for pregnant women, the fetus, and the newborn remain unknown. A review of maternal and neonatal coronavirus disease 2019 morbidity and mortality data along with perinatal vaccine safety considerations are presented to assist providers with shared decision-making regarding vaccine administration for this group, including the healthcare worker who is pregnant, lactating, or considering pregnancy. The coronavirus disease 2019 vaccine should be offered to pregnant women after discussing the lack of safety data, with preferential administration for those at highest risk of severe infection, until safety and efficacy of these novel vaccines are validated

[JCVI issues new advice on COVID-19 vaccination for pregnant women](#)

Public Health England, 16 April 2021.

The JCVI has advised that pregnant women should be offered the COVID-19 vaccine at the same time as the rest of the population, based on their age and clinical risk group.

Covid-19 in neonates

[Newborn Evaluation and Care](#)

UpToDate, May 2021.

The latest evidence summary.

In [COVID-19: Labor, delivery, and postpartum issues and care](#)

[Clinical features and outcomes of neonatal COVID-19: A systematic review.](#)

Journal of clinical virology : the official publication of the Pan American Society for Clinical Virology; Jun 2021; vol. 139 ; p. 104819.

Lim, Kia Hui et al.

Detailed comment with stats, charts etc.

Original article:

EL. 1.7.2021

- [Prevalence, clinical characteristics, and outcomes of pediatric COVID-19: A systematic review and meta-analysis.](#)
Clin Virol. 2021 Feb;135:104715. Epub 2020 Dec 8.
Badal S, Thapa Bajgain K. et al.

[Coronavirus infection in neonates: a systematic review.](#)

Archives of disease in childhood. Fetal and neonatal edition; May 2021; vol. 106 (no. 3); p. 330-335
Trevisanuto, Daniele et al.
Summarises currently reported neonatal cases of SARS-CoV-2 infection.

Covid-19 in pregnancy/birth

[COVID-19: Pregnancy issues and antenatal care](#)

UpToDate, 14 May 2021.
The latest evidence summary.

[Stillbirths and other adverse outcomes for babies in Britain during the pandemic.](#)

Nuffield Trust, 4 May 2021. Blog with statistics.
Assessment of the evidence around stillbirths and other adverse outcomes for babies in Britain over the past year.

[Coronavirus disease 2019 \(COVID-19\): pregnancy-related complications](#) [scroll down]

BMJ Best Practice, updated 24 June 2021.

[Maternal and perinatal outcomes of pregnant women with SARS-CoV-2 infection at the time of birth in England: national cohort study.](#)

Am J Obstet Gynecol. 20 May 2021.
Gurol-Urganci I. et al.

- RCOG [Response to this study](#)

[Coronavirus Disease 2019 in Pregnancy and Outcomes Among Pregnant Women and Neonates: A Literature Review.](#)

The Pediatric infectious disease journal; May 2021; vol. 40 (no. 5); p. 473-478
Mark, Elyse G. et al.

Abstract: Limited data are available about the outcomes of coronavirus disease 2019 (COVID-19) during pregnancy and risk of vertical transmission in exposed neonates. We reviewed studies published February 1, 2020, through August 15, 2020, on outcomes in pregnant women with COVID-19 and neonates with perinatal exposure. Among pregnant women with COVID-19, 181 (11%) required intensive care unit admission and 123 (8%) required mechanical ventilation. There were 22 maternal deaths. Most infections occurred in the third trimester. Among women who delivered, 28% had a preterm birth, and 57% had a Caesarean section. Sixty-one (4%) of 1222 neonates with reported testing had at least 1 positive severe acute respiratory syndrome coronavirus 2 polymerase chain reaction test. The most common symptom among neonates was respiratory distress (n = 126; 21%). There were 14 neonatal deaths, one of which occurred in a neonate with positive testing. Further study of COVID-19 in pregnant women and neonates, including standardized reporting of outcomes, testing and treatment protocols, is essential to optimize maternal and neonatal care.

[Change in ectopic pregnancy presentations during the covid-19 pandemic.](#)

International journal of clinical practice; May 2021; vol. 75 (no. 5); p. e13925

Werner, Sarah; Katz, Adi

In just 2 months, we have nearly reached our annual ruptured ectopic pregnancy rate from the previous year. This report describes a dramatic increase in the diagnosis and management of ectopic pregnancies encountered within just 2 months at our institution, with a markedly increased number of ruptured and unstable patients at time of the initial diagnosis. When compared to the previous year, it is critical to note this increase, as the women who presented with ruptured ectopic pregnancies were completely unaware of their diagnosis, and only knew that they had a positive pregnancy test at home

Consequences of the COVID-19 pandemic on the postpartum course: Lessons learnt from a large-scale comparative study in a teaching hospital. (Israel)

International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; May 2021; vol. 153 (no. 2); p. 315-321

Kugelman, Niret al.

Objective: To evaluate the consequences of COVID-19 pandemic restrictions on the postpartum course.

Methods: A retrospective cross-sectional study compared women who gave birth between March and April 2020 (first wave), between July to September 2020 (second wave), and a matched historical cohort throughout 2017–2019 (groups A, B, and C, respectively). Primary outcomes were postpartum length of stay (LOS), presentations to the emergency department (ED), and readmissions 30 days or longer after discharge. Following Bonferroni correction, $p < 0.016$ was considered statistically significant.

Results: In total, 3377 women were included: 640, 914, and 1823 in groups A, B, and C, respectively. LOS after birth (both vaginal and cesarean) was shorter in groups A and B compared to the control group (2.28 ± 1.01 and 2.25 ± 0.93 vs 2.55 ± 1.10 days, $p < 0.001$). Rates of ED presentations 30 days after discharge were higher in groups C and B compared to group A (6.63% and 6.45% vs 3.12%, $p = 0.006$). Rates of readmissions 30 days after discharge were 0.78%, 1.42%, and 1.09% (groups A, B, and C, respectively), demonstrating no statistical difference ($p = 0.408$).

Conclusion: During the COVID-19 pandemic, there was a reduction or no change in rates of ED presentations and readmissions, despite the shortened LOS after delivery. A shift in policy regarding the postpartum LOS could be considered.

[Euglycaemic ketoacidosis in pregnant women with COVID-19: two case reports.](#)

BMC pregnancy and childbirth; Jun 2021; vol. 21 (no. 1); p. 427

Pikovsky, Margaret et al.

Description of two cases of SARS-CoV-2 positive pregnant women presenting with normoglycaemic metabolic ketoacidosis. Both cases were associated with maternal and fetal compromise, requiring aggressive fluid and insulin resuscitation and early delivery. Conclusion: Discussion of possible physiology and propose a management strategy for euglycaemic ketoacidosis in pregnancy.

[Does therapy always need touch? A cross-sectional study among Switzerland-based occupational therapists and midwives regarding their experience with health care at a distance during the COVID-19 pandemic in spring 2020.](#)

BMC health services research; Jun 2021; vol. 21 (no. 1); p. 578.

Klamroth-Marganska, Verena et al.

We identified use of services and appraisal of experiences of Switzerland-based OTs and midwives regarding the provision of HCD during the lockdown as it pertains to the COVID-19 pandemic in spring 2020.

1. Hypothesis: Profession, age in years, and area of work have a significant and meaningful influence over whether HCD is provided.

2. Hypothesis: Profession, age in years, area of work, possibility of reimbursement by health insurance, and application used have a significant and meaningful influence on the experience of HCD.

Methods: In a cross-sectional survey, 5755 OTs and midwives were contacted to fill out an online questionnaire with 13 questions regarding demographic information, use of HCD, and experiences while providing the service. Eleven potential facilitators and barriers and areas where there was desire for support were identified. **Results:** The questionnaire was completed by 1269 health professionals (response rate 22.5%). 73.4% of responding OTs (n = 431) and midwives (n = 501) provided HCD during the COVID-19 pandemic lockdown. Profession and area of work had a significant influence on whether HCD was provided. Age only had a significant influence on the use of videotelephony, SMS, and chat services. OTs experienced HCD significantly more positively than midwives (log odds = 1.3; $p \leq .01$). Video-telephony (log odds = 1.1; $p \leq .01$) and use of phone (log odds = 0.8; $p = .01$) were positive predictors for positive experience, while use of SMS (log odds = - 0.33; $p = .02$) was a negative predictor. Among OTs, 67.5% experienced HCD as positive or mostly positive, while 27.0% experienced it as negative or mostly negative. Among midwives, 39.5% experienced it as positive or mostly positive, while 57.5% experienced it as negative or mostly negative. Most respondents desired support concerning reimbursement by health insurance (70.8%), followed by law and data protection (60.4%).

Conclusions: HCD during the early COVID-19 pandemic was generally perceived as positive by OTs and midwives. There is need for training opportunities in connection with HCD during the COVID-19 pandemic

[Pregnant women with COVID-19: the placental involvement and consequences.](#)

Journal of molecular histology; Jun 2021; vol. 52 (no. 3); p. 427-435

Aghaamoo, Shahrzad et al.

Narrative review.

[Characteristics and outcomes of COVID-19 pneumonia in pregnancy compared with infected nonpregnant women.](#)

International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; Jun 2021; vol. 153 (no. 3); p. 462-468

Vizheh, Maryam et al.

Objective: To compare the clinical and paraclinical features and outcomes of pregnant and nonpregnant women with COVID- 19. **Methods:** A multicenter retrospective cohort study of pregnant and nonpregnant women of reproductive age hospitalized between March and October 2020 in Tehran, Iran. Medical records were reviewed and women who tested positive for SARS- CoV- 2 on RT- PCR were included. Extracted data were compared and logistic regression performed. **Results:** A total of 110 pregnant and 234 nonpregnant COVID- 19- positive women were included. Frequency of severe disease was higher in nonpregnant women than pregnant women (29% vs 11.8%; $P < 0.001$). Symptoms including cough, dyspnea, chill, fatigue, and headache were more frequent in nonpregnant women ($P < 0.05$). Pregnant women had higher oxygen saturation levels and lower lymphocyte count ($P = 0.001$). Six (5.5%) pregnant and 12 (5.1%) nonpregnant women died ($P = 0.80$). No significant differences between the groups were found for ICU admission and end organ failure. Significantly more nonpregnant women had acute respiratory distress syndrome (ARDS, 9.4% vs 0%; $P = 0.001$). Univariate regression indicated association between hypertension and death; oxygen saturation and ARDS; and body mass index and ICU admission. No association was found between pregnancy and death, ICU admission, or ARDS. **Conclusion:** Pregnant women with COVID- 19 are not at higher risk of adverse out-comes compared with nonpregnant women.

How the cesarean delivery rate decreased at the Department of Obstetrics and Gynecology, University of Debrecen during the COVID-19 pandemic

Orvosi hetilap; May 2021; vol. 162 (no. 21); p. 811-823

Deli, Tamás et al.

Analyses the compound effect of new local protocols regarding elective labour inductions at term, the coronavirus pandemic and the resulting infection control measures, the merging of the Obstetrics and Gynecology Ward of the Kenézy County Hospital of Debrecen (Hungary) and the University Department of Obstetrics and Gynecology, and also the change of the legal environment.

EL. 1.7.2021

[New evidences that discard the possible vertical transmission of SARS-CoV-2 during pregnancy.](#)

Medicina clinica; May 2021; vol. 156 (no. 10); p. 523

Cai, Jianghui; Zhang, Yingzi; Tang, Mi

Letter Comment

Vertical Transmission

[Frequency of congenital infection](#)

UpToDate, updated 14 May 2021.

The latest evidence summary within [COVID-19: Pregnancy issues and antenatal care](#)

Or Search for “vertical” or “transmission” in the text using the Find tool top right.

[Severe Acute Respiratory Syndrome Coronavirus 2 Placental Infection and Inflammation Leading to Fetal Distress and Neonatal Multi-Organ Failure in an Asymptomatic Woman.](#)

Journal of the Pediatric Infectious Diseases Society; May 2021; vol. 10 (no. 5); p. 556-561

Schoenmakers, Sam et al.

Background. In general, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection during pregnancy is not considered to be an increased risk for severe maternal outcomes but has been associated with an increased risk for fetal distress. Maternal-fetal transmission of SARS-CoV-2 was initially deemed uncertain; however, recently a few cases of vertical transmission have been reported. The intrauterine mechanisms, besides direct vertical transmission, leading to the perinatal adverse outcomes are not well understood. **Methods.** Multiple maternal, placental, and neonatal swabs were collected for the detection of SARS-CoV-2 using real-time quantitative polymerase chain reaction (RT-qPCR). Serology of immunoglobulins against SARS-CoV-2 was tested in maternal, umbilical cord, and neonatal blood. Placental examination included immunohistochemical investigation against SARS-CoV-2 antigen expression, with SARS-CoV-2 ribonucleic acid (RNA) in situ hybridization and transmission electron microscopy. **Results.** RT-qPCRs of the oropharynx, maternal blood, vagina, placenta, and urine were all positive over a period of 6 days, while breast milk, feces, and all neonatal samples tested negative. Placental findings showed the presence of SARS-CoV-2 particles with generalized inflammation characterized by histiocytic intervillitis with diffuse perivillous fibrin depositions with damage to the syncytiotrophoblasts. **Conclusions.** Placental infection by SARS-CoV-2 leads to fibrin depositions hampering fetal-maternal gas exchange with resulting fetal distress necessitating a premature emergency cesarean section. Postpartum, the neonate showed a fetal or pediatric inflammatory multisystem-like syndrome with coronary artery ectasia temporarily associated with SARS-CoV-2 for which admittance and care on the neonatal intensive care unit (NICU) were required, despite being negative for SARS-CoV-2. This highlights the need for awareness of adverse fetal and neonatal outcomes during the current coronavirus disease 2019 pandemic, especially considering that the majority of pregnant women appear asymptomatic.

Covid-19 in paediatrics

[Role of Asymptomatic Children in Community Severe Acute Respiratory Syndrome Coronavirus 2 Transmission.](#)

The Journal of infectious diseases; May 2021; vol. 223 (no. 10); p. 1834-1836

EL. 1.7.2021

Lu, Liangjian et al.

Goldstein and colleagues recently reviewed the limited evidence suggesting that children are less susceptible to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and have reduced infectivity upon being infected. As they point out, given that many infected children are asymptomatic or paucisymptomatic, these data are sensitive to errors in index case ascertainment. This adds to the concern about the potential role of children in mediating undetected SARS-CoV-2 transmission. We have utilized the comprehensive contact tracing system and low rates of community transmission outside worker dormitories in Singapore to investigate this further.

[COVID-19: clinical manifestations and diagnosis in children](#)

UpToDate, last updated 28 June 2021.

The latest evidence summary.

[Coronavirus disease 2019 \(COVID-19\)/complications: paediatric inflammatory multisystem syndrome](#) [scroll down]

BMJ Best Practice, updated 17 June 2021.

A rare, but severe condition, reported in children and adolescents approximately 2 to 4 weeks after the onset of COVID-19, likely due to a post-infectious inflammatory process.

[COVID-19 resources](#)

RCPCH, May 2021

Guidance about the COVID-19 pandemic - on paediatric services, hospital admission, staffing and rotas, education and training, research and surveillance and information for families.

Maternal Mental Health

[16,000 pregnant women and new mothers missed out on vital mental health support during the pandemic](#)

Royal College of Psychiatrists, 1 July 2021

Thousands of women could not get vital help with their mental health during pregnancy or right after giving birth because of the Covid pandemic, according to new [analysis](#) using the Royal College of Psychiatrists' Mental Health Watch.

Child Mental Health

[The COVID generation: a mental health pandemic in the making. The impact on the mental health of children and young people during and after the COVID-19 pandemic](#)

The All-Party Group on a Fit and Healthy Childhood, 2021

[Weathering the storm? The pandemic's impact on young people's wellbeing](#)

Health Foundation, May 2021

[Children and young people's mental health survey](#)

NHS Providers, 4 June 2021

Domestic Abuse

[Domestic abuse: get help during the coronavirus \(COVID-19\) outbreak](#)

Home Office, last updated 18 June 2021.

Includes sources of help for children. [Scroll down or click [Get help for children and young people](#)].