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Search Pack L69
Coronavirus (COVID-19) - Labour, delivery and intrapartum care

Records on the impact of COVID-19 on labour, delivery and intrapartum care. Includes material on mode of delivery, birth partners, support in labour, place of birth, choice and availability of maternal health services, and policies in labour wards and birthing facilities during the coronavirus pandemic.

Updated 26 April 2021

2021-02602
Counting stillbirths and COVID 19—there has never been a more urgent time. Homer CSE, Leisher SH, Aggarwal N, et al (2021), The Lancet Global Health vol 9, no 1, January 2021, pp E10-E11
Comments that in order to reduce preventable stillbirths, all perinatal outcomes need to be counted, particularly in the light of the considerable impact of the COVID-19 pandemic on maternal and newborn health. (MB)
Available from: https://doi.org/10.1016/S2214-109X(20)30456-3
Full URL: https://doi.org/10.1016/S2214-109X(20)30456-3

2021-01726
The role of pandemic-related pregnancy stress in preference for community birth during the beginning of the COVID-19 pandemic in the United States. Preis H, Mahaffey B, Lobel M (2021), Birth 6 March 2021, online
Background
The COVID-19 pandemic introduced unparalleled uncertainty into the lives of pregnant women, including concerns about where it is the safest to give birth, while preserving their rights and wishes. Reports on the increased interest in community births (at home or in birth centers) are emerging. The purpose of this project was to quantitatively investigate psychological factors related to this birth preference.

Methods
This study included 3896 pregnant women from the COVID-19 Pregnancy Experiences (COPE) Study who were anticipating a vaginal birth. COPE Study participants were recruited online between April 24 and May 15, 2020, and completed a questionnaire that included preference with respect to place of birth and psychological constructs: fear

of childbirth, basic beliefs about birth, pandemic-related preparedness stress, and pandemic-related perinatal infection stress.

Results
Women who preferred a community birth, on average, had less childbirth fear, had stronger beliefs that birth is a natural process, were less likely to see birth as a medical process, and were less stressed about being unprepared for birth and being infected with COVID-19. In multivariate models, higher stress about perinatal COVID-19 infection was associated with greater likelihood of preferring a community birth. The effect of perinatal infection stress on preference was stronger when preparedness stress was high.

Discussion
Women's birth preferences during the COVID-19 pandemic are associated with psychological processes related to risk perception. Community births are more appealing to women who view being in a hospital as hazardous because of the pandemic. Policies and prenatal care aimed to increase access to safe in-hospital and out-of-hospital birth services should be encouraged.
Available from: https://doi.org/10.1111/birt.12533
Full URL: https://doi.org/10.1111/birt.12533

2021-01513
The experiences of childbearing women who tested positive to COVID-19 during the pandemic in northern Italy.
Fumagalli S, Omaghi S, Borrelli S, et al (2021), Women and Birth: Journal of the Australian College of Midwives 9 January 2021, online
Problem
The COVID-19 pandemic has significantly challenged maternity provision internationally. COVID-19 positive women are one of the childbearing groups most impacted by the pandemic due to drastic changes to maternity care pathways put in place.
Background
Some quantitative research was conducted on clinical characteristics of pregnant women with COVID-19 and pregnant women's concerns and birth expectations during the COVID-19 pandemic, but no qualitative findings on childbearing women's experiences during the pandemic were published prior to our study.
Aim
To explore childbearing experiences of COVID-19 positive mothers who gave birth in the months of March and April 2020 in a Northern Italy maternity hospital.
Methods
A qualitative interpretive phenomenological approach was undertaken. Audio-recorded semi-structured interviews were conducted with 22 women. Thematic analysis was completed using NVivo software. Ethical approval was obtained from the research site's Ethics Committee prior to commencing the study.
Findings
The findings include four main themes: 1) coping with unmet expectations; 2) reacting and adapting to the 'new ordinary'; 3) 'pandemic relationships'; 4) sharing a traumatic experience with long-lasting emotional impact.
Discussion
The most traumatic elements of women's experiences were the sudden family separation, self-isolation, transfer to a referral centre, the partner not allowed to be present at birth and limited physical contact with the newborn.
Conclusion
Key elements of good practice including provision of compassionate care, presence of birth companions and transfer

to referral centers only for the most severe COVID-19 cases should be considered when drafting maternity care pathways guidelines in view of future pandemic waves.
Available from: https://doi.org/10.1016/j.wombi.2021.01.001
Full URL: https://doi.org/10.1016/j.wombi.2021.01.001

2021-01483
Homebirth in the Time of Covid. Wainer N (2020), Midwifery Today no 136, Winter 2020
Frequent contributor Nancy Wainer writes about how homebirth has changed and why it is still the best choice during the pandemic. (Author)

2021-01451
Prematurity Rates During the Coronavirus Disease 2019 (COVID-19) Pandemic Lockdown in Melbourne, Australia. Matheson A, McGannon CJ, Malhotra A, et al (2021), Obstetrics & Gynecology vol 137, no 3, March 2021, pp 405-407
Low rates of preterm birth were observed during the coronavirus disease 2019 (COVID-19) lockdown in Melbourne, Australia.

2021-01450
Preterm Birth During the Coronavirus Disease 2019 (COVID-19) Pandemic in a Large Hospital System in the United States. Wood R, Sinnott C, Goldfarb I, et al (2021), Obstetrics & Gynecology vol 137, no 3, March 2021, pp 403-404
The preterm birth rate was unchanged in a metropolitan U.S. hospital system during the peak of the coronavirus disease 2019 (COVID-19) pandemic compared with the prior year.

2021-01353
Patient characteristics associated with SARS-CoV-2 infection in parturients admitted for labour and delivery in Massachusetts during the spring 2020 surge: A prospective cohort study. Reale SC, Lumbreras-Marquez MI, King CH, et al (2021), Paediatric and Perinatal Epidemiology vol 35, no 1, January 2021, pp 24-33
Background
While studies from large cities affected by coronavirus disease 2019 (COVID-19) have reported on the prevalence of SARS-CoV-2 in the context of universal testing during admission for delivery, the patient demographic, social and clinical factors associated with SARS-CoV-2 infection in pregnant women are not fully understood.

Objective
To evaluate the epidemiological factors associated with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in women admitted for labour and delivery, in the context of universal screening at four Boston-area hospitals.

Methods
In this prospective cohort study, we reviewed the health records of all women admitted for labour and delivery at four hospitals from the largest health system in Massachusetts between 19 April 2020 and 27 June 2020. We calculated the risk of SARS-CoV-2 infection, including asymptomatic infection. We calculated associations between SARS-CoV-2 infection and demographic and clinical characteristics.

Results
A total of 93 patients (3.2%, 95% confidence interval 2.5, 3.8) tested positive for SARS-CoV-2 infection on admission for labour and delivery out of 2945 patients included in the analysis; 80 (86.0%) of the patients who tested positive were asymptomatic at the time of testing. Factors associated with SARS-CoV-2 infection included the following: younger age, obesity, African American or Hispanic race/ethnicity, residence in heavily affected communities (as measured in

cases reported per capita), presence of a household member with known SARS-CoV-2 infection, non-health care essential worker occupation and MassHealth or Medicaid insurance compared to commercial insurance. 93.8% of patients testing positive for SARS-CoV-2 on admission had one or more identifiable factors associated with disease acquisition.
Conclusions
In this large sample of deliveries during the height of the surge in infections during the spring of 2020, SARS-CoV-2 infection was largely concentrated in patients with distinct demographic characteristics, those largely from disadvantaged communities. Racial disparities seen in pregnancy persist with respect to SARS-CoV-2 infection.
Available from: https://doi.org/10.1111/ppe.12743
Full URL: https://doi.org/10.1111/ppe.12743

20210122-37*
COVID-19 and Perinatal Care: Facing Challenges, Seizing Opportunities. Tilden EL, Phillippi JC, Snowden JM (2020), Journal of Midwifery and Women's Health 14 December 2020, online
Available from: https://doi.org/10.1111/jmwh.13193
Full URL: https://doi.org/10.1111/jmwh.13193
We highlight current barriers and opportunities to advancing birth equity and perinatal care integration in light of the novel coronavirus pandemic (COVID-19). (Author, edited)

20210119-4*
Covid crisis forces suspension of maternity services. Moore A (2021), Health Service Journal 7 January 2021
Available from: https://www.hsj.co.uk/
Full URL: https://www.hsj.co.uk/
Some trusts in London and the South East are closing standalone birth centres and warning they cannot support home births because of high levels of demand for ambulance services from covid patients. (Author)

20210106-1*
South East NHS trusts suspend births at home and in midwife-led units. Anon (2021), BBC News 5 January 2021
Available from: https://www.bbc.co.uk/news/uk-england-sussex-55545882
Full URL: https://www.bbc.co.uk/news/uk-england-sussex-55545882
Births at home and at midwife-led units have been suspended in some areas due to the 'significant pressure' the ambulance service is facing. (Author)

2021-00815
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) universal screening in gravids during labor and delivery. Savirón-Cornudella R, Villalba A, Zapardiel J, et al (2021), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 256, January 2021, pp 400-404
Available from: https://doi.org/10.1016/j.ejogrb.2020.11.069
Full URL: https://doi.org/10.1016/j.ejogrb.2020.11.069
Objective
To screen pregnant women at risk of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection during delivery using reverse-transcription polymerase chain reaction (RT-PCR) test and serum immunoglobulin (Ig) testing.
Method
Between March 31 st and August 31 st of 2020, consecutive pregnant women admitted for labor and delivery in a single hospital were screened for SARS-CoV-2 with nasopharyngeal RT-PCR swab tests and detection of serum IgG and IgM.

Results
We studied 266 pregnant women admitted for labor and delivery. The prevalence of acute or past SARS-CoV-2 infection was 9.0 %, including (i) two cases with respiratory symptoms of SARS-Co-V-2 infection and positive RT-PCR; (ii) four asymptomatic women with positive RT-PCR without clinical symptoms and negative serological tests between two and 15 weeks later; and (iii) two women with false positive RT-PCR due to technical problems. All newborns of the 6 pregnant women with RT-PCR positive had negative RT-PCR and did not require Neonatal Intensive Care Unit admission. There were eighteen asymptomatic women with positive serological IgG tests and negative RT-PCR.
Conclusion
In our cohort of gravids, we found 2.2 % of women with positive RT-PRC tests and 6.7 % with positive serological tests during the first wave of the SARS-CoV-2 pandemic.

2021-00768
Rapid antigen detection testing for universal screening for severe acute respiratory syndrome coronavirus 2 in women admitted for delivery. Rottenstreich A, Zarbiv G, Kabiri D, et al (2021), American Journal of Obstetrics & Gynecology (AJOG) 13 January 2021, online
Available from: https://doi.org/10.1016/j.ajog.2021.01.002
Full URL: https://doi.org/10.1016/j.ajog.2021.01.002
Research letter evaluating the performance of an antigen-based rapid detection tests for universal screening for SARS-CoV-2 in women admitted for delivery. (LDO)

2021-00745
Campaign Update: Removing COVID-19-related maternity restrictions on partners. AIMS Campaigns Team (2020), AIMS Journal vol 32, no 4, December 2020
Available from: https://www.aims.org.uk/journal/item/campaign-update-covid-restrictions-partners
Full URL: https://www.aims.org.uk/journal/item/campaign-update-covid-restrictions-partners
An update from the AIMS Campaigns team about their progress in the campaign for the needs of maternity service users to be considered in current national guidance. (Author)

2021-00711
Birth in a pandemic after a pregnancy loss. Hardy C (2020), AIMS Journal vol 32, no 2, June 2020
Available from: https://www.aims.org.uk/journal/item/covid-19-clare-hardy
Full URL: https://www.aims.org.uk/journal/item/covid-19-clare-hardy
After losing a baby to miscarriage, Clare Hardy describes how her subsequent pregnancy and birth were affected by Covid-19 as well as anxiety about a further loss. (Author)

2021-00710
Preparing for freebirth during Covid-19. Hyde H-B (2020), AIMS Journal vol 32, no 2, June 2020
Available from: https://www.aims.org.uk/journal/item/covid19-hannah-beth
Full URL: https://www.aims.org.uk/journal/item/covid19-hannah-beth
Hannah-Beth Hyde explains why she feels that a freebirth is her safest option during the Covid-19 pandemic. (Author)

2021-00707
Homebirth to Midwife Led Unit transfer. Sumner L (2020), AIMS Journal vol 32, no 2, June 2020
Available from: https://www.aims.org.uk/journal/item/covid-19-leanne-sumner
Full URL: https://www.aims.org.uk/journal/item/covid-19-leanne-sumner
Leanne Sumner's positive birth, accidentally on the MLU!. (Author)

2021-00705
When partners are banned from birth. Castelino L (2020), AIMS Journal vol 32, no 2, June 2020
Available from: https://www.aims.org.uk/journal/item/covid-19-lucy-castelino
Full URL: https://www.aims.org.uk/journal/item/covid-19-lucy-castelino
As Lucy Castelino arrived at the hospital to birth her twins, she was told that her partner could not be there at all, nor for the next 5 days. (Author)

2021-00704
The impact of Covid-19 on Tabitha's birth. Kemlo H (2020), AIMS Journal vol 32, no 2, June 2020
Available from: https://www.aims.org.uk/journal/item/covid19-tabitha
Full URL: https://www.aims.org.uk/journal/item/covid19-tabitha
Hannah Kemlo explains how Covid-19 affected her mental health. (Author)

2021-00702
Balancing the trade offs. Wallace I (2020), AIMS Journal vol 32, no 2, June 2020
Available from: https://www.aims.org.uk/journal/item/covid-19-isla-wallace
Full URL: https://www.aims.org.uk/journal/item/covid-19-isla-wallace
Isla Wallace discusses how balancing the risks of spreading Covid-19 with the risks of being separated from her partner and newborn affected her. (Author)

2021-00701
A time of worry and uncertainty. Miller F (2020), AIMS Journal vol 32, no 2, June 2020
Available from: https://www.aims.org.uk/journal/item/covid-19-felicity-miller
Full URL: https://www.aims.org.uk/journal/item/covid-19-felicity-miller
Felicity Miller explains how the changes to maternity services in her area are causing huge stress and anxiety. (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)

2021-00177

Outcomes of the novel Odon Device in indicated operative vaginal birth. Holton EJ, Lenguerrand E, Alvarez M, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) 11 December 2020, online

Available from: https://doi.org/10.1016/j.ajog.2020.12.017

Full URL: https://doi.org/10.1016/j.ajog.2020.12.017

Background

No new method of assisting vaginal birth has been introduced into clinical practice since the development of the vacuum extractor in the 1950s. The Odon Device is a new device that employs a circumferential air cuff over the fetal head to assist birth. In this study, the Odon Device has been used to assist vaginal birth for standard clinical indications.

Objective

This study aimed to investigate the clinical impact, safety, and acceptability of the Odon Device to women, their babies, and clinicians and to assess the feasibility of recruiting women to an interventional intrapartum research study.

Study Design

This is a nonrandomized, single-arm interventional feasibility study of the Odon Device for operative vaginal birth undertaken in a single maternity unit: Southmead Hospital, Bristol, United Kingdom. The Odon Device was used to assist birth in 40 women who required the birth to be assisted for suspected fetal compromise and/or prolonged second stage of labor. The primary clinical outcome was the proportion of births successfully assisted with the Odon Device, and the primary feasibility outcome was the proportion of eligible women who were approached and who agreed to participate. Neonatal outcome data were reviewed at day 28, and maternal outcomes were investigated up to day 90.

Results

Between October 2018 and January 2019, 298 of 384 approached, eligible women (77.6%) consented to participate. Of these women, 40 received the intervention—the use of the Odon Device. Birth was assisted in all cephalic (occiput anterior, occiput transverse, and occiput posterior) fetal positions, at all stations at or below the ischial spine and with or without regional analgesia. The Odon Device was effective in 19 of 40 cases (48%). Of the 40 births, 21 (52.5%) required additional assistance: 18 of 40 births (45%) were completed using nonrotational forceps, 1 of 40 births (3%) required rotational forceps, and 2 of 40 births (5%) required an emergency cesarean delivery. There was no serious maternal or neonatal adverse event related to the use of the device, and there was no serious adverse device effect. There were 4 devices (10%) that were ineffective because of a manufacturing fault. Furthermore, 39 of 40 women (98%) reported a high birth perception score. All practitioners were able to use the device as intended, although some steps in using the device were reported to be easier to perform (setup and deflation of air chamber) than others (application of the device and withdrawal of the applicator).

Conclusion
Recruitment to an interventional study of a new device for operative vaginal birth was feasible; 78% of eligible women were willing to participate, often expressing an aspiration for an alternative to forceps and vacuum. The success rate of the Odon Device was lower than reported success rates of vacuum and forceps; however, in this study, the device had been used to assist birth for standard clinical indications. There was no significant maternal or neonatal safety concern associated with the use of the device, although the number of births studied was small. Further feasibility study to establish iterative changes to the device, technique, and clinical indications is necessary.

2021-00174

Modest reduction in adverse birth outcomes following the COVID-19 lockdown. Caniglia EC, Magosi LE, Zash R, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) 18 December 2020, online

Background
Widespread lockdowns imposed during the coronavirus disease 2019 crisis may impact birth outcomes.
Objective
This study aimed to evaluate the association between the COVID-19 lockdown and the risk of adverse birth outcomes in Botswana.
Study Design
In response to the coronavirus disease 2019 crisis, Botswana enforced a lockdown that restricted movement within the country. We used data from an ongoing nationwide birth outcomes surveillance study to evaluate adverse outcomes (stillbirth, preterm birth, small-for-gestational-age fetuses, and neonatal death) and severe adverse outcomes (stillbirth, very preterm birth, very-small-for-gestational-age fetuses, and neonatal death) recorded prelockdown (January 1, 2020–April 2, 2020), during lockdown (April 3, 2020–May 7, 2020), and postlockdown (May 8, 2020–July 20, 2020). Using difference-in-differences analyses, we compared the net change in each outcome from the prelockdown to lockdown periods in 2020 relative to the same 2 periods in 2017–2019 with the net change in each outcome from the prelockdown to postlockdown periods in 2020 relative to the same 2 periods in 2017–2019.
Results
In this study, 68,448 women delivered a singleton infant in 2017–2020 between January 1 and July 20 and were included in our analysis (mean [interquartile range] age of mothers, 26 [22–32] years). Across the included calendar years and periods, the risk of any adverse outcome ranged from 27.92% to 31.70%, and the risk of any severe adverse outcome ranged from 8.40% to 11.38%. The lockdown period was associated with a 0.81 percentage point reduction (95% confidence interval, −2.95% to 1.30%) in the risk of any adverse outcome (3% relative reduction) and a 0.02 percentage point reduction (95% confidence interval, −0.79% to 0.75%) in the risk of any severe adverse outcome (0% relative reduction). The postlockdown period was associated with a 1.72 percentage point reduction (95% confidence, −3.42% to 0.02%) in the risk of any adverse outcome (5% relative reduction) and a 1.62 percentage point reduction (95% confidence interval, −2.69% to −0.55%) in the risk of any severe adverse outcome (14% relative reduction). Reductions in adverse outcomes were largest among women with human immunodeficiency virus and among women delivering at urban delivery sites, driven primarily by reductions in preterm birth and small-for-gestational-age fetuses.
Conclusion
Adverse birth outcomes decreased from the prelockdown to postlockdown periods in 2020, relative to the change during the same periods in 2017–2019. Our findings may provide insights into associations between mobility and birth outcomes in Botswana and other low- and middle-income countries.

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)

20201221-45*

Birth experience during COVID-19 confinement (CONFINE): protocol for a multicentre prospective study. Bertholdt C, Epstein J, Banasiak C, et al (2020), BMJ Open vol 10, no 12, December 2020

Available from: http://dx.doi.org/10.1136/bmjopen-2020-043057

Full URL: http://dx.doi.org/10.1136/bmjopen-2020-043057

Introduction The absence of companionship during childbirth is known to be responsible for negative emotional birth experience, which can increase the risk of postpartum depression and post-traumatic stress disorder. The context of COVID-19 epidemic and the related confinement could increase the rate of negative experience and mental disorders. The main objective is to compare, in immediate post partum, the maternal sense of control during childbirth between a group of women who gave birth during confinement ('confinement' group) versus a group of women who gave birth after confinement but in the context of epidemic ('epidemic' group) versus a group of control women ('control' group; excluding confinement and epidemic context).
Methods and analysis This is a national multicentre prospective cohort study conducted in four French maternity units. We expect to include 927 women in a period of 16 months. Women will be recruited immediately in post partum during three different periods constituting the three groups: 'confinement'; 'epidemic' and 'control' group. The maternal sense of control will be evaluated by the Labour Agentry Scale questionnaire completed immediately in post partum. Postnatal depression (Edinburgh Postnatal Depression Scale), post-traumatic stress disorder (Impact of Event Scale-Revised) and breast feeding (evaluative statement) will be evaluated at 2 months post partum.
Ethics and dissemination The study was approved by the French Ethics Committee, the CPP (Comité de Protection des Personnes) SUD OUEST ET OUTRE-MER IV on 16th of April 2020 with reference number CPP2020-04-040. The results of this study will be published in a peer-reviewed journal and will be presented at relevant conferences.
Trial registration number NCT04348929. (Author)

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)

20201218-7*
Questionnaire-based vs universal PCR testing for SARS-CoV-2 in women admitted for delivery. Mei-Dan E, Satkunaratnam A, Cahan T, et al (2020), Birth 1 December 2020, online
Available from: https://doi.org/10.1111/birt.12520
Full URL: https://doi.org/10.1111/birt.12520

Background
It has been suggested that women admitted for delivery should have universal PCR testing for SARS-CoV-2. Yet, the considerable difference in the incidence of COVID-19 between different geographic regions may affect screening strategies. Therefore, we aimed to compare questionnaire-based testing versus universal PCR testing for SARS-CoV-2 in women admitted for delivery.
Methods
A prospective cohort study of women admitted for delivery at a single center during a four-week period (April 22-May 25, 2020). All women completed a questionnaire about COVID-19 signs, symptoms, or risk factors, and a nasopharyngeal swab for PCR for SARS-CoV-2. Women who were flagged as suspected COVID-19 by the questionnaire (questionnaire-positive) were compared with women who were not flagged by the questionnaire (questionnaire-negative).
Results
Overall, 446 women were eligible for analysis, of which 54 (12.1%) were questionnaire-positive. PCR swab detected SARS-CoV-2 in four (0.9%) women: 3 of 392 (0.8%) in the questionnaire-negative group, and 1 of 54 (1.9%) in the questionnaire-positive group (P = .43), yielding a number needed to screen of 92 (95% CI 62-177). In 96% of the cases, the PCR results were obtained only in the postpartum period. No positive PCR results were obtained from neonatal testing for SARS-CoV-2. The sensitivity of the questionnaire was 75.0%, and the negative predictive value was 99.7%.
Conclusions
Although the rate of positive PCR results was not significantly different between the groups, the number needed to screen is considerably high. The use of questionnaire-based PCR testing in areas with low incidence of COVID-19 allows for a reasonable allocation of resources and is easy to implement. (Author)

20201218-40*
COVID-19 and caesareans. Winter GF (2020), British Journal of Midwifery vol 28, no 12, December 2020, pp 860-861
George F Winter offers insight into the risk associated with carrying out caesarean sections on women who test positive for SARS-CoV-2 compared with those who do not. (Author)

20201218-23*

A Review on Mode of Delivery during COVID-19 between December 2019 and April 2020. Debrabandere ML, Farabaugh DC, Giordano (2021), American Journal of Perinatology vol 38, no 4, March 2021, pp 332-341

Available from: https://doi.org/10.1055/s-0040-1721658
Full URL: https://doi.org/10.1055/s-0040-1721658

Objective This study aims to review the published literature to determine mode of delivery in pregnant women with coronavirus disease 2019 (COVID-19) and the indications reported for cesarean section early in the pandemic to add information to the current narrative and raise awareness of trends discovered.

Study Design A systematic review was conducted by searching PubMed, Scopus, and ScienceDirect databases for articles published between December 2019 and April 29, 2020 using a combination of the keywords such as COVID-19, coronavirus 2019, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), pregnancy, vaginal delivery, cesarean section, vertical transmission, management, and guidelines. Peer-reviewed case studies with confirmed SARS-CoV-2 women who delivered were included to determine mode of delivery, indications for cesarean section, and maternal and neonatal characteristics.

Results A review of 36 total articles revealed deliveries in 203 SARS-CoV-2 positive pregnant women. A comparable severity of disease in pregnant versus nonpregnant women was noted, as previously determined. Overall, 68.9% of women delivered via cesarean section, with COVID-19 status alone being a common indication. Maternal COVID-19 may also be associated with increased risk of preterm labor, although neonatal outcomes were generally favorable. Despite eight of 206 newborns testing positive for SARS-CoV-2, there remains no definitive evidence of vertical transmission.

Conclusion COVID-19 status alone became a common indication for cesarean delivery early in the pandemic, despite lack of evidence for vertical transmission. The increase in cesarean rate in this data may reflect obstetricians attempting to serve their patients in the best way possible given the current climate of constantly evolving guidelines on safest mode of delivery for the mother, infant, and provider. Upholding current recommendations from trusted organizations as new data are published, while also providing individualized support to expecting mothers on most appropriate mode of delivery, will reduce the amount of unnecessary, unplanned cesarean sections and could lessen the psychological impact of delivering during the COVID-19 pandemic. (Author)

20201216-5*

Pregnant women allowed support of one person 'at all times'. Anon (2020), BBC News 16 December 2020

Available from: https://www.bbc.co.uk/news/health-55330549
Full URL: https://www.bbc.co.uk/news/health-55330549

Pregnant women should be allowed to have one person alongside them during scans, appointments, labour and birth, under new NHS guidance sent to trusts in England. (Author)

20201215-7*

Covid encouraged Bury St Edmunds woman to try home birth. Anon (2020), BBC News 14 December 2020

Available from: https://www.bbc.co.uk/news/av/uk-england-suffolk-55308105
Full URL: https://www.bbc.co.uk/news/av/uk-england-suffolk-55308105

Video report about a woman's decision to give birth to her third child at home to avoid having to go to hospital during the coronavirus pandemic. (MB)

20201130-27

Pregnancy in the COVID-19 pandemic. Barlow C (2020), MIDIRS Midwifery Digest vol 30, no 4, December 2020, pp 482-487

The current pandemic is presenting a great challenge for midwives to provide safe, holistic care for women with unclear complex needs and is changing many plans for pregnancy and childbirth. This article will look at those challenges while examining the current evidence in pregnancies and suggesting how health care professionals can support women to have positive birthing experiences. (Author)

20201127-7*

Detection of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in vaginal swabs of women with acute SARS-CoV-2 infection: a prospective study. Schwartz A, Yogev Y, Zilberman A, et al (2021), BJOG: An International Journal of Obstetrics and Gynaecology vol 128, no 1, January 2021, pp 97-100

Available from: https://doi.org/10.1111/1471-0528.16556

Full URL: https://doi.org/10.1111/1471-0528.16556

Objective

To determine whether severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is present in the vaginal secretions of both reproductive-aged and postmenopausal women during acute SARS-CoV-2 infection.

Design

Prospective study.

Setting

A single tertiary, university-affiliated medical centre in Israel. Time period, 1 June 2020 through to 31 July 2020.

Population

Women who were hospitalised in a single tertiary medical centre, who were diagnosed with acute SARS-CoV-2 infection by a nasopharyngeal RT-PCR test.

Methods

Women were diagnosed with acute SARS-CoV-2 infection by a nasopharyngeal RT-PCR test. Vaginal RT-PCR swabs were obtained from all study participants after a proper cleansing of the perineum.

Main outcome measures

Detection of SARS-CoV-2 in vaginal RT-PCR swabs.

Results

Vaginal and nasopharyngeal swabs were obtained from 35 women, aged 21-93 years. Twenty-one women (60%) were in their reproductive years, of whom, five were in their third trimester of pregnancy. Most of the participants (57%) were healthy without any underlying medical conditions. Of the 35 patients sampled, 2 (5.7%) had a positive vaginal RT-PCR for SARS-CoV-2, one was premenopausal and the other was a postmenopausal woman. Both women had mild disease.

Conclusion

Our findings contradict most previous reports, which did not detect the presence of viral colonisation in the vagina. Although passage through the birth canal exposes neonates to the vaginal polymicrobial flora, an acquisition of pathogens does not necessarily mandate neonatal infection or clinical disease. Nevertheless, when delivering the infant of a woman with acute SARS-CoV-2 infection, a clinician should consider the possibility of vaginal colonisation, even if it is uncommon.

Tweetable abstract

When delivering the infant of a woman with acute SARS-CoV-2 infection, a clinician should consider the possibility of vaginal colonisation. (Author)

20201126-46*

Vaginal delivery in SARS-CoV-2-infected pregnant women in Israel: a multicenter prospective analysis. Rottenstreich A, Tsur A, Braverman N, et al (2020), Archives of Gynecology and Obstetrics 29 October 2020, online

Available from: https://doi.org/10.1007/s00404-020-05854-2

Full URL: https://doi.org/10.1007/s00404-020-05854-2

Key Message

Among SARS-CoV-2-infected mothers, vaginal delivery rates were high and associated with favorable outcomes with no cases of neonatal COVID-19.

Purpose

To investigate the mode of delivery and its impact on immediate neonatal outcome in SARS-CoV-2-infected women.

Methods

A prospective study following pregnant women diagnosed with COVID-19 who delivered between March 15th and July 4th in seven university affiliated hospitals in Israel.

Results

A total of 52 women with a confirmed diagnosis of COVID-19 delivered in the participating centers during the study period. The median gestational age at the time of delivery was 38 weeks, with 16 (30.8%) cases complicated by spontaneous preterm birth. Forty-three women (82.7%) underwent a trial of labor. The remaining 9 women underwent pre-labor cesarean delivery mostly due to obstetric indications, whereas one woman with a critical COVID-19 course underwent urgent cesarean delivery due to maternal deterioration. Among those who underwent a trial of labor (n = 43), 39 (90.7%) delivered vaginally, whereas 4 (9.3%) cases resulted in cesarean delivery. Neonatal RT-PCR nasopharyngeal swabs tested negative in all cases, and none of the infants developed pneumonia. No maternal and neonatal deaths were encountered.

Conclusions

In this prospective study among SARS-CoV-2-infected mothers, vaginal delivery rates were high and associated with favorable outcomes with no cases of neonatal COVID-19. Our findings underscore that delivery management among SARS-CoV-2-infected mothers should be based on obstetric indications and may potentially reduce the high rates of cesarean delivery previously reported in this setting. (Author)

20201126-39*

Application of the Principles of Biomedical Ethics to the Labor and Delivery Unit During the COVID-19 Pandemic. Boyle A, Dotson S, Ellison P, et al (2020), Journal of Women's Health vol 29, no 11, November 2020, pp 1361-1371

Available from: https://doi.org/10.1089/jwh.2020.8812

Full URL: https://doi.org/10.1089/jwh.2020.8812

After its identification as a human pathogen in 2019, the novel coronavirus, SARS-CoV-2, has spread rapidly around the world. Health care workers worldwide have had the task of preparing and responding to the pandemic with little evolving data or guidelines. Regarding the protocols for our labor and delivery unit, we focused on applying the four pillars of biomedical ethics-beneficence, nonmaleficence, autonomy, and justice-while considering the women, their fetuses, their significant others and support persons, health care professionals and auxiliary staff, and society as a whole. We also considered the downstream effect of our decisions in labor and delivery on other disciplines of medicine, including pediatrics, anesthesiology, and critical care. This article focuses on how these prima facie principles helped guide our recommendations in this unprecedented time. (Author)

20201123-55*

Obstetric Anesthesia During the COVID-19 Pandemic. Bauer ME, Bernstein K, Dinges E, et al (2020), Anesthesia & Analgesia
vol 131, no 1, July 2020, pp 7-15
Available from: http://dx.doi.org/10.1213/ANE.0000000000004856
Full URL: http://dx.doi.org/10.1213/ANE.0000000000004856

With increasing numbers of coronavirus disease 2019 (COVID-19) cases due to efficient human-to-human transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in the United States, preparation for the unpredictable setting of labor and delivery is paramount. The priorities are 2-fold in the management of obstetric patients with COVID-19 infection or persons under investigation (PUI): (1) caring for the range of asymptomatic to critically ill pregnant and postpartum women; (2) protecting health care workers and beyond from exposure during the delivery hospitalization (health care providers, personnel, family members). The goal of this review is to provide evidence-based recommendations or, when evidence is limited, expert opinion for anesthesiologists caring for pregnant women during the COVID-19 pandemic with a focus on preparedness and best clinical obstetric anesthesia practice. (Author)

20201117-111*

Characteristics and Maternal and Birth Outcomes of Hospitalized Pregnant Women with Laboratory-Confirmed COVID-19 - COVID-NET, 13 States, March 1-August 22, 2020. Delahoy MJ, Whitaker M, O'Halloran A, et al (2020), Morbidity
and Mortality Weekly Report (MMWR) vol 69, no 38, 25 September 2020, pp 1347-1354
Available from: http://dx.doi.org/10.15585/mmwr.mm6938e1
Full URL: http://dx.doi.org/10.15585/mmwr.mm6938e1

Presents data on maternal and birth outcomes of hospitalised pregnant women with COVID-19 in the United States. Results indicate that 45.5% of pregnant women were symptomatic at the time of hospital admission and 16.2% were admitted to an intensive care unit. Preterm delivery was reported for 23.1% of symptomatic women and 8% of asymptomatic women among those with live births. (LDO)

20201117-108*

Association of SARS-CoV-2 Test Status and Pregnancy Outcomes. Ahlberg M, Neovius M, Saltvedt S, et al (2020), JAMA (Journal of the American Medical Association) vol 324, no 17, 3 November 2020, pp 1782-1785
Available from: https://doi.org/10.1001/jama.2020.19124
Full URL: https://doi.org/10.1001/jama.2020.19124

Research letter exploring pregnancy outcomes for those with and without SARS-CoV-2 at Karolinska University Hospital in Sweden. Patients with SARS-CoV-2 were more likely to have pre-eclampsia and less likely to undergo induction of labour. Other outcomes such as postpartum haemorrhage and preterm birth did not significantly differ between the groups. (LDO)

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)

20201116-82*

Increase of stillbirth and decrease of late preterm infants during the COVID-19 pandemic lockdown. de Curtis M, Villani L, Polo A (2020), Archives of Disease in Childhood: Fetal and Neonatal Edition 30 October 2020, online
Available from: http://dx.doi.org/10.1136/archdischild-2020-320682
Full URL: http://dx.doi.org/10.1136/archdischild-2020-320682

Analyses perinatal data during lockdown in comparison to the same months in 2019 in the Lazio region of Italy. Results demonstrate a threefold increase in the number of stillbirths, an increase in full-term births and a decrease in the percentage of late preterm births. (LDO)

20201116-24

Not alone. Scanlan C (2020), Midwives vol 23, November 2020, p 50

Charlotte Scanlan talks about giving birth during COVID-19, 'Staff were incredible at making me feel as supported as possible despite the circumstances'. (Author)

20201112-42*

COVID-19 Infection and Placental Histopathology in Women Delivering at Term. Patberg ET, Adams T, Rekawek P, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) 19 October 2020, online
Available from: https://doi.org/10.1016/j.ajog.2020.10.020
Full URL: https://doi.org/10.1016/j.ajog.2020.10.020

Background
- There is a paucity of data describing the effects of COVID-19, especially in asymptomatic patients, on placental pathology. Although the pathophysiology of COVID-19 is not completely understood, there is emerging evidence that it causes a severe systemic inflammatory response and results in a hypercoagulable state with widespread microthrombi. We hypothesized that it is plausible that a similar disease process may occur in the fetal-maternal unit.
Objective
- The aim of this study was to determine whether COVID-19 in term patients admitted to Labor and Delivery, including women without COVID-19 symptomatology, is associated with increased placental injury compared to a cohort of COVID-19 negative controls.
Study Design
- This was a retrospective cohort study performed at NYU Winthrop Hospital between 3/31/2020 and 6/17/2020. During the study period all women admitted to Labor and Delivery were routinely tested for SARS-CoV-2 regardless of symptomatology. The placental histopathological findings of COVID-19 patients (n=77) who delivered a singleton gestation at term were compared to a control group of term patients without COVID-19 (n=56). Controls were excluded if they had obstetric or medical complications including fetal growth restriction, oligohydramnios, hypertension, diabetes, coagulopathy or thrombophilia. Multivariable logistic regression models were performed for

variables that were significant in univariable analyses. A subgroup analysis was also performed comparing asymptomatic COVID-19 cases to negative controls.
Results
- In univariable analyses, COVID-19 cases were more likely to have evidence of fetal vascular malperfusion, i.e. presence of avascular villi and/or mural fibrin deposition (32.5% (25/77) vs. 3.6% (2/56), p<0.0001) and villitis of unknown etiology (20.8% (16/77) vs. 7.1% (4/56), p=0.030). These findings persisted in a subgroup analysis of asymptomatic COVID-19 cases compared to COVID-19 negative controls. In a multivariable model adjusting for maternal age, race/ethnicity, mode of delivery, preeclampsia, fetal growth restriction and oligohydramnios, the frequency of fetal vascular malperfusion abnormalities remained significantly higher in the COVID-19 group (OR= 12.63, 95% CI [2.40, 66.40]). While the frequency of villitis of unknown etiology was more than double in COVID-19 cases compared to controls, this did not reach statistical significance in a similar multivariable model (OR=2.11, 95% CI [0.50, 8.97]). All neonates of mothers with COVID-19 tested negative for SARS-CoV-2 by PCR.
Conclusions
- Despite the fact that all neonates born to mothers with COVID-19 were negative for SARS-CoV-2 by PCR, we found that COVID-19 in term patients admitted to Labor and Delivery is associated with increased rates of placental histopathologic abnormalities, particularly fetal vascular malperfusion and villitis of unknown etiology. These findings appear to occur even among asymptomatic term patients. (Author)

20201104-8*
Impact of COVID-19 mitigation measures on the incidence of preterm birth: a national quasi-experimental study.
Been JV, Ochoa LB, Bertens LCM, et al (2020), The Lancet Public Health vol 5, no 11, November 2020, pp e604-e611
Available from: https://doi.org/10.1016/S2468-2667(20)30223-1
Full URL: https://doi.org/10.1016/S2468-2667(20)30223-1

Background
Preterm birth is the leading cause of child mortality globally, with many survivors experiencing long-term adverse consequences. Preliminary evidence suggests that numbers of preterm births greatly reduced following implementation of policy measures aimed at mitigating the effects of the COVID-19 pandemic. We aimed to study the impact of the COVID-19 mitigation measures implemented in the Netherlands in a stepwise fashion on March 9, March 15, and March 23, 2020, on the incidence of preterm birth.
Methods
We used a national quasi-experimental difference-in-regression-discontinuity approach. We used data from the neonatal dried blood spot screening programme (2010-20) cross-validated against national perinatal registry data. Stratified analyses were done according to gestational age subgroups, and sensitivity analyses were done to assess robustness of the findings. We explored potential effect modification by neighbourhood socioeconomic status, sex, and small-for-gestational-age status.
Findings
Data on 1 599 547 singleton neonates were available, including 56 720 births that occurred after implementation of COVID-19 mitigation measures on March 9, 2020. Consistent reductions in the incidence of preterm birth were seen across various time windows surrounding March 9 (± 2 months [n=531 823] odds ratio [OR] 0·77, 95% CI 0·66-0·91, p=0·0026; ± 3 months [n=796 531] OR 0·85, 0·73-0·98, p=0·028; ± 4 months [n=1 066 872] OR 0·84, 0·73-0·97, p=0·023). Decreases in incidence observed following the March 15 measures were of smaller magnitude, but not statistically significant. No changes were observed after March 23. Reductions in the incidence of preterm births after March 9 were consistent across gestational age strata and robust in sensitivity analyses. They appeared confined to neighbourhoods of high socioeconomic status, but effect modification was not statistically significant.
Interpretation

In this national quasi-experimental study, initial implementation of COVID-19 mitigation measures was associated with a substantial reduction in the incidence of preterm births in the following months, in agreement with preliminary observations elsewhere. Integration of comparable data from across the globe is needed to further substantiate these findings and start exploring underlying mechanisms.
Funding: None. (Author)

20201102-1*
Exclusive: Watchdog investigating national rise in stillbirths. Discombe M (2020), Health Service Journal 2 November 2020, online
A national review has been launched by regulators because of an increased number of stillbirths during the first wave of covid, HSJ can reveal. (Author)

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)

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)

20201027-4*

A marked decrease in preterm deliveries during the coronavirus disease 2019 pandemic. Meyer R, Friedrich L, Maixner N, et al (2021), American Journal of Obstetrics & Gynecology (AJOG) vol 224, no 2, February 2021, pp 234-237
Available from: https://doi.org/10.1016/j.ajog.2020.10.017
Full URL: https://doi.org/10.1016/j.ajog.2020.10.017

Research letter exploring preterm birth rates and neonatal outcomes at the Sheba Medical Center in Israel during the COVID-19 pandemic. Results indicate that preterm birth rates in pregnancies of less than 34 weeks of gestation decreased by over 50%. (LDO)

20201027-36*

Infection prevention and control for labor and delivery, well baby nurseries, and neonatal intensive care units. Saiman L, Acker KP, Dumitru D, et al (2020), Seminars in Perinatology vol 44, no 7, November 2020, 151320
Available from: https://doi.org/10.1016/j.semperi.2020.151320
Full URL: https://doi.org/10.1016/j.semperi.2020.151320

During the early months of the COVID-19 pandemic, infection prevention and control (IP&C) for women in labor and mothers and newborns during delivery and receiving post-partum care was quite challenging for staff, patients, and support persons due to a relative lack of evidence-based practices, high rates of community transmission, and shortages of personal protective equipment (PPE). We present our IP&C policies and procedures for the obstetrical population developed from mid-March to mid-May 2020 when New York City served as the epicenter of the pandemic in the U.S. For patients, we describe screening for COVID-19, testing for SARS-CoV-2, and clearing patients from COVID-19 precautions. For staff, we address self-monitoring for symptoms, PPE in different clinical scenarios, and reducing staff exposures to SARS-CoV-2. For visitors/support persons, we address limiting them in labor and delivery, the postpartum units, and the NICU to promote staff and patient safety. We describe management of SARS-CoV-2-positive mothers and their newborns in both the well-baby nursery and in the neonatal ICU. Notably, in the well-baby nursery we do not separate SARS-CoV-2-positive mothers from their newborns, but emphasize maternal mask use and social distancing by placing newborns in isolates and asking mothers to remain 6 feet away unless feeding or changing their newborn. We also encourage direct breastfeeding and do not advocate early bathing. Newborns of SARS-CoV-2-positive mothers are considered persons under investigation (PUIs) until 14 days of life, the

duration of the incubation period for SARS-CoV-2. We share two models of community-based care for PUI neonates. Finally, we provide our strategies for enhancing communication and education during the early months of the pandemic. (Author)

20201027-2*

Singleton preterm birth rates for racial and ethnic groups during the coronavirus disease 2019 pandemic in California. Main EK, Chang S-C, Carpenter AM, et al (2021), American Journal of Obstetrics & Gynecology (AJOG) vol 224, no 2, February 2021,
pp 239-241
Available from: https://doi.org/10.1016/j.ajog.2020.10.033
Full URL: https://doi.org/10.1016/j.ajog.2020.10.033

Research letter exploring the impact of the COVID-19 pandemic on preterm birth rates in California between April and July 2020. Results indicate that there were no changes in overall preterm birth rates among any of the ethnic group categories. (LDO)

20201026-20*

The Impact of Perinatal SARS-CoV2 Infection During the Peripartum Period. Janssen O, Thompson M, Milburn S, et al (2020), American Journal of Obstetrics & Gynecology MFM 20 October 2020, online
Available from: https://doi.org/10.1016/j.ajogmf.2020.100267
Full URL: https://doi.org/10.1016/j.ajogmf.2020.100267

Research letter examining perinatal SARS-CoV-2 infection outcomes and inpatient volume between 25 March and 15 May 2020 in the New York City area. The premature birth rate among SARS-CoV-2 positive patients was 8.2% in comparison to 7.5% among SARS-CoV-2 negative mothers in the comparative period between January and June 2020. (LDO)

20201026-19*

Decreased incidence of preterm birth during coronavirus disease 2019 pandemic. Berghella V, Boelig R, Roman A, et al (2020), American Journal of Obstetrics & Gynecology MFM vol 2, no 4, suppl, November 2020, 100258
Available from: https://doi.org/10.1016/j.ajogmf.2020.100258
Full URL: https://doi.org/10.1016/j.ajogmf.2020.100258

Research letter exploring rates of premature birth at Thomas Jefferson University Hospital in the United States during the COVID-19 pandemic. Results indicate a 25% decrease in the overall incidence of premature birth in 2020 compared with 2019. (LDO)

20201022-53*

The rate of SARS-CoV-2 positivity in asymptomatic pregnant women admitted to hospital for delivery: Experience of a pandemic center in Turkey. Tanacan A, Erol SA, Turgay B, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 253, October 2020, pp 31-34
Available from: https://doi.org/10.1016/j.ejogrb.2020.07.051
Full URL: https://doi.org/10.1016/j.ejogrb.2020.07.051

Objective
To investigate the rate of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) positivity in asymptomatic pregnant women admitted to hospital for delivery in a Turkish pandemic center.
Study Design
This prospective cohort study was conducted in Ankara City Hospital between April, 15, 2020 and June, 5, 2020. A total

of 206 asymptomatic pregnant women (103 low-risk pregnant women without any defined risk factor and 103 high-risk pregnant women) were screened for SARS-CoV-2 positivity upon admission to hospital for delivery. Detection of SARS-CoV2 in nasopharyngeal and oropharyngeal samples was performed by Real Time Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) method targeting RdRp (RNA dependent RNA polymerase) gene. Two groups were compared in terms of demographic features, clinical characteristics and SARS-CoV-2 positivity.
Results
Three of the 206 pregnant women participating in the study had positive RT-PCR tests (1.4 %) and all positive cases were in the high-risk pregnancy group. Although, one case in the high-risk pregnancy group had developed symptoms highly suspicious for COVID-19, two repeated RT-PCR tests were negative. SARS-CoV-2 RT-PCR positivity rate was significantly higher in the high-risk pregnancy group (2.9 % vs 0%, p = 0.04).
Conclusion
Healthcare professionals should be cautious in the labor and delivery of high-risk pregnant women during the pandemic period and universal testing for COVID-19 may be considered in selected populations. (Author)

20201022-16*

Obstetric Hemorrhage Risk Associated with Novel COVID-19 Diagnosis from a Single-Institution Cohort in the United States. Wang MJ, Schapero M, Iverson R, et al (2020), American Journal of Perinatology vol 37, no 14, December 2020, pp 1411-1416

Objective The study aimed to compare the quantitative blood loss (QBL) and hemorrhage-related outcomes of pregnant women with and without a coronavirus disease 2019 (COVID-19) diagnosis.
Study Design This retrospective cohort study of all live deliveries at Boston Medical Center between April 1, 2020 and July 22, 2020 compares the outcomes of pregnant women with a laboratory-confirmed COVID-19 positive diagnosis and pregnant women without COVID-19. The primary outcomes are QBL and obstetric hemorrhage. The secondary outcomes analyzed were a maternal composite outcome that consisted of obstetric hemorrhage, telemetry-level (intermediate care unit) or intensive care unit, transfusion, length of stay greater than 5 days, or intraamniotic infection, and individual components of the maternal composite outcome. Groups were compared using Student's t-test, Chi-squared tests, or Fisher's exact. Logistic regression was used to adjust for confounding variables.
Results Of 813 women who delivered a live infant between April 1 and July 22, 2020, 53 women were diagnosed with COVID-19 on admission to the hospital. Women with a COVID-19 diagnosis at their time of delivery were significantly more likely to identify as a race other than white (p = 0.01), to deliver preterm (p = 0.05), to be diagnosed with preeclampsia with severe features (p < 0.01), and to require general anesthesia (p < 0.01). Women diagnosed with COVID-19 did not have a significantly higher QBL (p = 0.64). COVID-19 positive pregnant patients had no increased adjusted odds of obstetric hemorrhage (adjusted odds ratio [aOR]: 0.41, 95% confidence interval [CI]: 0.17-1.04) and no increased adjusted odds of the maternal morbidity composite (aOR: 0.98, 95% CI: 0.50-1.93) when compared with those without a diagnosis of COVID-19.
Conclusion Pregnant women with COVID-19 diagnosis do not have increased risk for obstetric hemorrhage, increased QBL or risk of maternal morbidity compared with pregnant women without a COVID-19 diagnosis. Further research is needed to describe the impact of a COVID-19 diagnosis on maternal hematologic physiology and pregnancy outcomes. (Author)

20201021-98*

Impact of labor and delivery unit policy modifications on maternal and neonatal outcomes during the coronavirus disease 2019 pandemic. Greene NH, Kilpatrick SJ, Wong MS, et al (2020), American Journal of Obstetrics & Gynecology MFM vol 2, no 4, suppl, November 2020, 100234

Available from: https://doi.org/10.1016/j.ajogmf.2020.100234
Full URL: https://doi.org/10.1016/j.ajogmf.2020.100234

Background
In response to the coronavirus disease 2019 pandemic, hospitals nationwide have implemented modifications to labor and delivery unit practices designed to protect delivering patients and healthcare providers from infection with severe acute respiratory syndrome coronavirus 2. Beginning in March 2020, our hospital instituted labor, and delivery unit modifications targeting visitor policy, use of personal protective equipment, designation of rooms for triage and delivery of persons suspected or infected with coronavirus disease 2019, delivery management, and newborn care. Little is known about the ramifications of these modifications in terms of maternal and neonatal outcomes.
Objective
The objective of this study was to determine whether labor and delivery unit policy modifications we made during the coronavirus disease 2019 pandemic were associated with differences in outcomes for mothers and newborns.
Study Design
We conducted a retrospective cohort study of all deliveries occurring in our hospital between January 1, 2020, and April 30, 2020. Patients who delivered in January and February 2020 before labor and delivery unit modifications were instituted were designated as the preimplementation group, and those who delivered in March and April 2020 were designated as the postimplementation group. Maternal and neonatal outcomes between the pre- and postimplementation groups were compared. Differences between the 2 groups were then compared with the same time period in 2019 and 2018 to assess whether any apparent differences were unique to the pandemic year. We hypothesized that maternal and newborn lengths of stay would be shorter in the postimplementation group. Statistical analysis methods included Student's t-tests and Wilcoxon tests for continuous variables and chi-square or Fisher exact tests for categorical variables.
Results
Postpartum length of stay was significantly shorter after implementation of labor unit changes related to coronavirus disease 2019. A postpartum stay of 1 night after vaginal delivery occurred in 48.5% of patients in the postimplementation group compared with 24.9% of the preimplementation group (P<.0001). Postoperative length of stay after cesarean delivery of ≤2 nights occurred in 40.9% of patients in the postimplementation group compared with 11.8% in the preimplementation group (P<.0001). Similarly, after vaginal delivery, 49.0% of newborns were discharged home after 1 night in the postimplementation group compared with 24.9% in the preimplementation group (P<.0001). After cesarean delivery, 42.5% of newborns were discharged after ≤2 nights in the postimplementation group compared with 12.5% in the preimplementation group (P<.0001). Slight differences in the proportions of earlier discharge between mothers and newborns were due to multiple gestations. There were no differences in cesarean delivery rate, induction of labor, or adverse maternal or neonatal outcomes between the 2 groups.
Conclusion
Labor and delivery unit policy modifications to protect pregnant patients and healthcare providers from coronavirus disease 2019 indicate that maternal and newborn length of stay in the hospital were significantly shorter after delivery without increases in the rate of adverse maternal or neonatal outcomes. In the absence of long-term adverse outcomes occurring after discharge that are tied to earlier release, our study results may support a review of our discharge protocols once the pandemic subsides to move toward safely shortening maternal and newborn lengths of stay. (Author)

20201013-15*

Universal Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2) Testing Uptake in the Labor and Delivery Unit: Implications for Health Equity. Kernberg A, Kelly J, Nazeer S, et al (2020), Obstetrics and Gynecology vol 136, no 6, December 2020, pp 1103-1108

Available from: https://doi.org/10.1097/AOG.0000000000004127

Full URL: https://doi.org/10.1097/AOG.0000000000004127

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OBJECTIVE:
To understand severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) testing uptake in the labor and delivery unit and rationales for declining testing, and to institute a process to increase equitable testing uptake.
METHODS:
We conducted a quality-improvement initiative from May 28-June 25, 2020, during the first 4 weeks of universal SARS-CoV-2 testing in the Barnes-Jewish Hospital labor and delivery unit. All consecutive patients presenting for delivery without coronavirus disease 2019 (COVID-19) symptoms were offered testing over four 1-week phases. Phase I documented the rate of testing uptake. Phase II recorded patients' reasons for declining testing. Phase III used phase II findings to create and implement shared decision-making tools. Phase IV offered each patient who declined nasopharyngeal testing an oropharyngeal alternative. The primary outcome was rate of SARS-CoV-2 testing uptake by phase.
RESULTS:
Of 270 patients, 223 (83%) accepted testing and 47 (17%) declined. Maternal age and mode of delivery were similar between groups, whereas testing uptake was higher among nulliparous, White, Hispanic, or privately insured patients. There was a significant increase in the primary outcome of SARS-CoV-2 testing across phases I-IV, from 68% to 76% to 94% to 95%, respectively (Somers' D 0.45; 95% CI of association 0.30-0.59). The most commonly cited reason for declining testing was concern regarding testing discomfort. In subgroup analyses by race and insurance type, there was a significant increase in testing uptake across phases I-IV for Black patients (56%, 54%, 91%, 92%; Somers' D 0.36; 95% CI of association 0.28-0.64), White patients (76%, 93%, 96%, 100%; Somers' D 0.59; 95% CI of association 0.38-0.8), those with Medicaid insurance (60%, 64%, 88%, 92%; 95%; Somers' D 0.39; CI of association 0.22 to 0.56), and those with private insurance (77%, 96%, 97%, 100%; Somers' D 0.63; 95% CI of association 0.40-0.86).
CONCLUSION:
Universal SARS-CoV-2 testing uptake significantly increased through a rapid-cycle improvement initiative. Aligning hospital policy with patient-centered approaches led to nearly universally acceptable testing. (Author)

20201013-14*

Severe acute respiratory syndrome coronavirus 2 antibodies in pregnant women admitted to labor and delivery units. Haizler-Cohen L, Davidov A, Blitz MJ, et al (2021), American Journal of Obstetrics & Gynecology (AJOG) vol 224, no 1, January 2021,
pp 112-114
Available from: https://doi.org/10.1016/j.ajog.2020.09.022
Full URL: https://doi.org/10.1016/j.ajog.2020.09.022

Research letter exploring the seroprevalence rate of SARS-CoV-2 antibodies in pregnant women admitted to labour and delivery units. (LDO)

20201013-11*

Preprocedural asymptomatic coronavirus disease 2019 cases in obstetrical and surgical units. Kelly JC, Raghuraman N, Carter EB, et al (2021), American Journal of Obstetrics & Gynecology (AJOG) vol 224, no 1, January 2021, pp 114-116
Available from: https://doi.org/10.1016/j.ajog.2020.09.023
Full URL: https://doi.org/10.1016/j.ajog.2020.09.023

Research letter exploring SARS-CoV-2 preprocedural asymptomatic infection rates in obstetrical and surgical units in one urban tertiary centre. (LDO)

20201007-72*

Vaginal delivery in women with COVID-19: report of two cases. Cao D, Chen M, Peng M, et al (2020), BMC Pregnancy and Childbirth vol 20, no 580, 2 October 2020
Available from: https://doi.org/10.1186/s12884-020-03281-4
Full URL: https://doi.org/10.1186/s12884-020-03281-4

Background
During the ongoing global outbreak of COVID-19, pregnant women who are susceptible to COVID-19 should be highly concerned. The issue of vertical transmission and the possibility of neonatal infection is a major concern.
Case presentation
Case 1: A 35-year-old pregnant woman with a gestational age of 37 weeks and 6 days was admitted to our hospital at the point of giving birth. Except for the abnormalities in her chest CT image, she was asymptomatic. She had an uncomplicated spontaneous vaginal delivery, and her infant was discharged home for isolation. Because of the positive result of the maternal swabs for SARS-CoV-2 obtained on the 2nd day after sampling, we transferred the mother to the designated hospital and followed up with her by telephone interviews. Luckily, it was confirmed on February 23 that the newborn did not develop any COVID-19 symptoms after observation for 14 days after birth.
Case 2: Another pregnant woman, with a gestational age of 38 weeks and 2 days, was also admitted to our hospital because of spontaneous labor with cervical dilation of 5 cm. Since she had the typical manifestations of COVID-19, including cough, lymphopenia, and abnormal chest CT images, she was highly suspected of having COVID-19. Based on the experience from case 1, we helped the mother deliver a healthy baby by vaginal delivery. On the 2nd day after delivery, the maternal nasopharyngeal swab result was positive, while the infant's result was negative.
Conclusion
There is still insufficient evidence supporting maternal-fetal vertical transmission for COVID-19-infected mothers in late pregnancy, and vaginal delivery may not increase the possibility of neonatal infection. (Author)

20201006-25*

Effect of the COVID-19 pandemic response on intrapartum care, stillbirth, and neonatal mortality outcomes in Nepal: a prospective observational study. Ashish KC, Gurung R, Kinney MV, et al (2020), The Lancet Global Health vol 8, no 10, October 2020, pp E1273-E1281
Available from: https://doi.org/10.1016/S2214-109X(20)30345-4
Full URL: https://doi.org/10.1016/S2214-109X(20)30345-4
Background
The COVID-19 pandemic response is affecting maternal and neonatal health services all over the world. We aimed to assess the number of institutional births, their outcomes (institutional stillbirth and neonatal mortality rate), and quality of intrapartum care before and during the national COVID-19 lockdown in Nepal.
Methods
In this prospective observational study, we collected participant-level data for pregnant women enrolled in the SUSTAIN and REFINE studies between Jan 1 and May 30, 2020, from nine hospitals in Nepal. This period included 12·5 weeks before the national lockdown and 9·5 weeks during the lockdown. Women were eligible for inclusion if they had a gestational age of 22 weeks or more, a fetal heart sound at time of admission, and consented to inclusion. Women who had multiple births and their babies were excluded. We collected information on demographic and obstetric characteristics via extraction from case notes and health worker performance via direct observation by independent clinical researchers. We used regression analyses to assess changes in the number of institutional births, quality of care, and mortality before lockdown versus during lockdown.
Findings
Of 22 907 eligible women, 21 763 women were enrolled and 20 354 gave birth, and health worker performance was recorded for 10 543 births. From the beginning to the end of the study period, the mean weekly number of births decreased from 1261·1 births (SE 66·1) before lockdown to 651·4 births (49·9) during lockdown-a reduction of 52·4%. The institutional stillbirth rate increased from 14 per 1000 total births before lockdown to 21 per 1000 total births during lockdown (p=0·0002), and institutional neonatal mortality increased from 13 per 1000 livebirths to 40 per 1000 livebirths (p=0·0022). In terms of quality of care, intrapartum fetal heart rate monitoring decreased by 13·4% (−15·4 to −11·3; p<0·0001), and breastfeeding within 1 h of birth decreased by 3·5% (−4·6 to −2·6; p=0·0032). The immediate

newborn care practice of placing the baby skin-to-skin with their mother increased by 13·2% (12·1 to 14·5; p<0·0001), and health workers' hand hygiene practices during childbirth increased by 12·9% (11·8 to 13·9) during lockdown (p<0·0001).
Interpretation
Institutional childbirth reduced by more than half during lockdown, with increases in institutional stillbirth rate and neonatal mortality, and decreases in quality of care. Some behaviours improved, notably hand hygiene and keeping the baby skin-to-skin with their mother. An urgent need exists to protect access to high quality intrapartum care and prevent excess deaths for the most vulnerable health system users during this pandemic period.
Funding
Grand Challenges Canada. (Author)

20200928-22*

Promotion of Maternal-Infant Mental Health and Trauma-Informed Care During the COVID-19 Pandemic. Choi KR, Records K, Low LK, et al (2020), JOGNN: Journal of Obstetric, Gynecologic and Neonatal Nursing vol 49, no 5, September 2020, pp 409-415
Available from: https://doi.org/10.1016/j.jogn.2020.07.004
Full URL: https://doi.org/10.1016/j.jogn.2020.07.004

The COVID-19 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)

20200925-48*

My birth, my way. Joanna (2020), AIMS Journal vol 32, no 2, June 2020
Available from: https://www.aims.org.uk/journal/item/covid-19-joanna
Full URL: https://www.aims.org.uk/journal/item/covid-19-joanna

Describes how the coronavirus pandemic meant that the hospital Joanna was attending for antenatal care was unable to provide her with a midwife to be present at her home birth, so she opted to give birth to her baby daughter unassisted. (JSM)

20200925-29*

Effect of delayed obstetric labor care during the COVID-19 pandemic on perinatal outcomes. Sun SV, Guazzelli CAF, de Morais LR, et al (2020), International Journal of Gynecology & Obstetrics vol 151, no 2, November 2020, pp 287-289

Available from: https://doi.org/10.1002/ijgo.13357
Full URL: https://doi.org/10.1002/ijgo.13357

During the COVID-19 quarantine period, there was an increased number of patients admitted in advanced stages of labor, resulting in higher rates of vaginal deliveries compared to the same period in 2019. (Author)

20200924-70*

Covid-19: Dad lost weight to attend daughter's birth. Anon (2020), BBC News 24 September 2020
Available from: https://www.bbc.co.uk/news/av/health-54273387
Full URL: https://www.bbc.co.uk/news/av/health-54273387

Reports that in March, Gavin Jackson weighed 21 stone and was diagnosed with hypertension; he was told that he was at high risk of contracting COVID-19 and would not be able to attend the birth of his daughter. Describes how he changed his lifestyle, lost weight and was able to attend the birth of his baby daughter, Ava, and support his wife Claire in labour. Includes audio-visual footage. (JSM)

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)

20200910-69*

Intraoperative coagulopathy during cesarean section as an unsuspected initial presentation of COVID-19: a case report. Kinsey KE, Ganz E, Khalil S, et al (2020), BMC Pregnancy and Childbirth vol 20, no 481, 24 August 2020
Available from: https://doi.org/10.1186/s12884-020-03140-2
Full URL: https://doi.org/10.1186/s12884-020-03140-2

Background
The world's understanding of COVID-19 continues to evolve as the scientific community discovers unique presentations of this disease. This case report depicts an unexpected intraoperative coagulopathy during a cesarean section in an otherwise asymptomatic patient who was later found to have COVID-19. This case suggests that there may be a higher risk for intrapartum bleeding in the pregnant, largely asymptomatic COVID-positive patient with more abnormal COVID laboratory values.
Case
The case patient displayed D-Dimer elevations beyond what is typically observed among this hospital's COVID-positive peripartum population and displayed significantly more oozing than expected intraoperatively, despite normal prothrombin time, international normalized ratio, fibrinogen, and platelets.
Conclusion
There is little published evidence on the association between D-Dimer and coagulopathy among the pregnant population infected with SARS-CoV-2. This case report contributes to the growing body of evidence on the effects of COVID-19 in pregnancy. A clinical picture concerning for intraoperative coagulopathy may be associated with SARS-CoV-2 infection during cesarean sections, and abnormal COVID laboratory tests, particularly D-Dimer, may help identify the patients in which this presentation occurs. (Author)

20200909-1*

Framework to assist NHS trusts to reintroduce access for partners, visitors and other supporters of pregnant women in English maternity services. Royal College of Obstetricians & Gynaecologists, Royal College of Midwives, Society & College of Radiographers, et al (2020), London: NHS England 8 September 2020, 7 pages
Available from:
https://www.england.nhs.uk/coronavirus/publication/framework-to-assist-nhs-trusts-to-reintroduce-access-for-p

artners-visitors-and-other-supporters-of-pregnant-women-in-english-maternity-services/

This framework has been designed to assist NHS trusts to reintroduce access for partners, visitors and other supporters of pregnant women in English maternity services. It applies to inpatient and outpatient settings. (Author)

20200903-5

COVID-19: a discussion on pregnancy, birth and psychological well-being. Anderson M (2020), MIDIRS Midwifery Digest vol 30, no 3, September 2020, pp 344-347

Discusses the impact of COVID-19 on the physical and mental health of pregnant women. Highlights rates of hospitalisation, mechanical ventilation and adverse pregnancy outcomes such as miscarriage, pre-eclampsia and perinatal death. Explores the impact of social distancing measures on domestic abuse, levels of anxiety and choices around place of birth. (LDO)

20200902-65*

Characteristics and Outcomes of 241 Births to Women With Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Infection at Five New York City Medical Centers. Khoury R, Bernstein PS, Debolt C, et al (2020), Obstetrics & Gynecology vol 136, no 2, August 2020, pp 273-282

Available from: https://doi.10.1097/AOG.0000000000004025
Full URL: https://doi.10.1097/AOG.0000000000004025

OBJECTIVE:
To describe the characteristics and birth outcomes of women with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection as community spread in New York City was detected in March 2020.
METHODS:
We performed a prospective cohort study of pregnant women with laboratory-confirmed SARS-CoV-2 infection who gave birth from March 13 to April 12, 2020, identified at five New York City medical centers. Demographic and clinical data from delivery hospitalization records were collected, and follow-up was completed on April 20, 2020.
RESULTS:
Among this cohort (241 women), using evolving criteria for testing, 61.4% of women were asymptomatic for coronavirus disease 2019 (COVID-19) at the time of admission. Throughout the delivery hospitalization, 26.5% of women met World Health Organization criteria for mild COVID-19, 26.1% for severe, and 5% for critical. Cesarean birth was the mode of delivery for 52.4% of women with severe and 91.7% with critical COVID-19. The singleton preterm birth rate was 14.6%. Admission to the intensive care unit was reported for 17 women (7.1%), and nine (3.7%) were intubated during their delivery hospitalization. There were no maternal deaths. Body mass index (BMI) 30 or higher was associated with COVID-19 severity (P=.001). Nearly all newborns tested negative for SARS-CoV-2 infection immediately after birth (97.5%).
CONCLUSION:
During the first month of the SARS-CoV-2 outbreak in New York City and with evolving testing criteria, most women with laboratory-confirmed infection admitted for delivery did not have symptoms of COVID-19. Almost one third of women who were asymptomatic on admission became symptomatic during their delivery hospitalization. Obesity was associated with COVID-19 severity. Disease severity was associated with higher rates of cesarean and preterm birth. (Author)

20200902-37

Induction of Labor in an Intubated Patient With Coronavirus Disease 2019 (COVID-19). Slayton-Milam S, Sheffels S, Chan D, et al (2020), Obstetrics & Gynecology vol 136, no 5, November 2020, pp 962-964

BACKGROUND:

In the global coronavirus disease 2019 (COVID-19) pandemic, to date, delivery of critically ill pregnant patients has predominantly been by cesarean.

CASE:

A 27-year-old pregnant woman was admitted to a 166-bed community hospital at 33 weeks of gestation with acute hypoxemic respiratory failure secondary to COVID-19. She underwent mechanical ventilation for 9 days. While ventilated, she underwent induction of labor, resulting in a successful forceps assisted-vaginal birth. She was extubated on postpartum day 5 and discharged on postpartum day 10. The neonate was intubated for 24 hours but was otherwise healthy and discharged home at 36 2/7 weeks postmenstrual age.

CONCLUSION:

Critically ill patients requiring mechanical ventilation, in this case due to COVID-19, may undergo induction of labor and vaginal delivery when carefully selected. (Author)

20200901-59*

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Universal Testing Experience on a Los Angeles Labor and Delivery Unit. Naqvi M, Burwick RM, Ozimek JA, et al (2020), Obstetrics and Gynecology vol 136, no 2, August 2020, pp 235-236

Available from: https://doi.org/10.1097/AOG.0000000000003987
Full URL: https://doi.org/10.1097/AOG.0000000000003987

Research letter discussing universal screening for SARS-CoV-2 at Cedars-Sinai Medical Center in the United States. Findings revealed that only one asymptomatic woman tested positive for SARS-CoV-2 among a cohort of 80 women. (LDO)

20200901-37*

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Environmental Contamination and Childbirth. Hermesch AC, Horve PF, Edelman A, et al (2020), Obstetrics & Gynecology vol 136, no 4, October 2020, pp 827-829

Available from: https://doi.org/10.1097/AOG.0000000000004112
Full URL: https://doi.org/10.1097/AOG.0000000000004112

Research letter presenting the results of a study on childbirth and the risk of environmental exposure to SARS-CoV-2. (LDO)

20200901-22*

Inpatient obstetric management of COVID-19. Aubey J, Zork N, Sheen J-J (2020), Seminars in Perinatology vol 44, no 7, November 2020, 151280

Available from: https://doi.org/10.1016/j.semperi.2020.151280
Full URL: https://doi.org/10.1016/j.semperi.2020.151280

Objective

To describe inpatient management strategies and considerations for pregnant patients with severe acute respiratory syndrome coronavirus 2 infection.

Findings

The novel coronavirus has posed challenges to both obstetric patients and the staff caring for them, due to its variable presentation and current limited knowledge about the disease. Inpatient antepartum, intrapartum and postpartum management can be informed by risk stratification, severity of disease, and gestational age. Careful planning and anticipation of emergent situations can prevent unnecessary exposures to patients and clinical staff.

Conclusion
As new data arises, management recommendations will evolve, thus practitioners must maintain a low threshold for adaptation of their clinical practice during obstetric care for patients with severe acute respiratory syndrome coronavirus 2 infection. (Author)

20200824-47*
COVID-19 outbreak and decreased hospitalisation of pregnant women in labour. Kumari V, Mehta K, Choudhary R (2020),
The Lancet Global Health vol 8, no 9, September 2020, pp E1116-E1117
Available from: https://doi.org/10.1016/S2214-109X(20)30319-3
Full URL: https://doi.org/10.1016/S2214-109X(20)30319-3
Presents the findings of a retrospective analysis of pregnant women across four hospitals in western India during the 10 weeks following lockdown. (MB)

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)

20200812-11*

Perceptions of patients and providers regarding restriction of labor and delivery support people in the early stages of the coronavirus disease 2019 pandemic. Cronin S, Piacquadio M, Brendel K, et al (2020), American Journal of Obstetrics & Gynecology MFM vol 2, no 4, suppl, November 2020, 100196

Available from: https://doi.org/10.1016/j.ajogmf.2020.100196
Full URL: https://doi.org/10.1016/j.ajogmf.2020.100196

Research report presenting a study on patient and provider perspectives of restricting labour and delivery support during the COVID-19 outbreak. On average, patients thought that 1.4 visitors should be allowed and providers thought that 0.9 visitors should be allowed. 20% of patients and 29% of providers were in favour of a hospital policy to disallow visitors. (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)

20200804-34*

Good clinical practice advice for the management of pregnant women with suspected or confirmed COVID-19 in Nigeria. Okunade KS, Makwe CC, Akinajo OR, et al (2020), International Journal of Gynecology & Obstetrics vol 150, no 3, September
2020, pp 278-284

Available from: https://doi.org/10.1002/ijgo.13278
Full URL: https://doi.org/10.1002/ijgo.13278

The impact on healthcare services in settings with under-resourced health systems, such as Nigeria, is likely to be substantial in the coming months due to the COVID-19 pandemic, and maternity services still need to be prioritized as an essential core health service. The healthcare system should ensure the provision of safe and quality care to women during pregnancy, labor, and childbirth, and at the same time, maternity care providers including obstetricians and midwives must be protected and prioritized to continue providing care to childbearing women and their babies during

the pandemic. This practical guideline was developed for the management of pregnant women with suspected or confirmed COVID-19 in Nigeria and other low-resource countries. (Author)

20200804-25*

Pregnancy, Birth and the COVID-19 Pandemic in the United States. Davis-Floyd R, Gutschow K, Schwartz DA (2020), Medical Anthropology vol 39, no 5, July 2020, pp 413-427
Available from: https://doi.org/10.1080/01459740.2020.1761804
Full URL: https://doi.org/10.1080/01459740.2020.1761804

How quickly and in what ways are US maternity care practices changing due to the COVID-19 pandemic? Our data indicate that partners and doulas are being excluded from birthing rooms leaving mothers unsupported, while providers face lack of protective equipment and unclear guidelines. We investigate rapidly shifting protocols for in- and out-of-hospital births and the decision making behind them. We ask, will COVID-19 cause women, families, and providers to look at birthing in a different light? And will this pandemic offer a testing ground for future policy changes to generate effective maternity care amidst pandemics and other types of disasters? (Author)

20200803-4*

Association Between Mode of Delivery Among Pregnant Women With COVID-19 and Maternal and Neonatal Outcomes in Spain. Martínez-Perez O, Vouga M, Melguizo SC, et al (2020), JAMA (Journal of the American Medical Association) vol 324, no 3, 21 July 2020, pp 296-299
Available from: https://doi.org/10.1001/jama.2020.10125
Full URL: https://doi.org/10.1001/jama.2020.10125

Research report on mode of delivery among pregnant women with COVID-19 and subsequent maternal and neonatal outcomes. Findings show that severe adverse maternal outcomes occurred in 11% of women overall and in 13.5% of those undergoing caesarean delivery. (LDO) [Erratum: JAMA (Journal of the American Medical Association), vol 324, no 3, 21 July 2020, p 305. https://doi.org/10.1001/jama.2020.12271]

20200731-5*

Guidance for intrapartum care for women with COVID-19 [Version 7]. Royal College of Midwives (2020), London: RCM 10 June 2020. 5 pages
Available from:
https://www.rcm.org.uk/media/4109/guidance-for-intrapartum-care-for-women-with-covid-19_030620.pdf
Full URL:
https://www.rcm.org.uk/media/4109/guidance-for-intrapartum-care-for-women-with-covid-19_030620.pdf

This briefing is provided as a resource for midwives based on a combination of available evidence, good practice, and expert advice for the intrapartum care of women diagnosed with COVID-19. This is very much an evolving situation and this guidance will be updated as new information becomes available. (Author, edited)

20200731-2*

RCM Clinical Briefing Sheet - Waterbirth during the COVID-19 Pandemic [Version 1]. Royal College of Midwives (2020), London: RCM 29 July 2020. 7 pages
Available from: https://www.rcm.org.uk/media/4188/waterbirth-during-covid-19-july-20.pdf
Full URL: https://www.rcm.org.uk/media/4188/waterbirth-during-covid-19-july-20.pdf

This briefing explores the current evidence about the safety of waterbirth during the current COVID19 pandemic. New evidence continues to evolve and this briefing will continue to be revised in line with emerging evidence. (Author)

20200729-8*

Ecuador's New Life Birthing Centers at the Time of Covid-19. New Life Team Members (2020), Midwifery Today no 134, Summer 2020

Provides an overview of New Life Birthing Centers which is a non-profit organisation and operates holistic birth centres in low resource countries. Discusses the birth centre in Ecuador which is now offering more home visits due to the COVID-19 outbreak. (LDO)

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)

20200729-3*

Letter to My Soon-to-be Parents-As We Negotiate These Unusual Times. Wainer N (2020), Midwifery Today no 134, Summer 2020

Nancy Wainer writes a letter to expectant parents explaining how homebirth midwives are conducting care during the COVID-19 outbreak. Includes a list of questions around social distancing and hygiene that expectant parents may be asked when visited by midwives. (LDO)

20200728-24*

Rapid Analytic Review: Labour and Birth Companionship in a pandemic [Version 5]. Lavender T, Downe S, Renfrew M, et al (2020), London: RCM 27 April 2020. 24 pages

Available from:
https://www.rcm.org.uk/media/3951/birth-companionship-in-a-pandemic-master-27-04-2020-002.pdf
Full URL: https://www.rcm.org.uk/media/3951/birth-companionship-in-a-pandemic-master-27-04-2020-002.pdf

This very rapid review looking at companionship of choice for asymptomatic childbearing women in hospital throughout labour and birth, was conducted by the RCM Professional Advisory Group, led by Professor Tina Lavender, as part of a series of COVID-19 related reviews. Key findings and considerations for practice are provided from page 3 onwards. Appendix one provides more details on the search strategy and findings. (Author, edited)

20200728-22*

RCM Professional Briefing on waterbirths for women without symptoms during the COVID-19 pandemic [Version 3]. Royal College of Midwives (2020), London: RCM 7 May 2020. 5 pages

Available from:
https://www.rcm.org.uk/media/4034/rcm-professional-briefing-on-waterbirth-in-the-time-of-covid-v-3-7-may-2020.pdf

This briefing explores the current evidence about the safety of waterbirth for women without symptoms of COVID-19 during the current pandemic. (Author)

20200728-16*

Country Contacts. Various (2020), Midwifery Today no 134, Summer 2020

Midwives from 12 countries share the practical changes they have made when providing maternity care during the COVID-19 pandemic. Changes include online antenatal consultations, the refusal of partners or doulas in the delivery room, delayed cord clamping, frequent hand washing and the use of personal protective equipment. Midwives also discuss the increase in rates of home birth and unattended birth. (LDO)

20200728-15*

The Impacts of Covid-19 on Birth Practices in the United States. Davis-Floyd R, Gutschow K, Schwartz DA (2020), Midwifery Today no 134, Summer 2020

Discusses the impact of COVID-19 on antenatal appointments, hospital protocols, birthing partners and the number of home births and unattended births in the United States. (LDO)

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)

20200723-71*

Change in the Incidence of Stillbirth and Preterm Delivery During the COVID-19 Pandemic. Khalil A, von Dadelszen P, Draycott T, et al (2020), JAMA (Journal of the American Medical Association) vol 324, no 7, 10 July 2020, pp 705-706

Available from: https://jamanetwork.com/journals/jama/fullarticle/2768389

Full URL: https://jamanetwork.com/journals/jama/fullarticle/2768389

Correspondence summarising the results of a study which aimed to detect any changes in stillbirth and rates of premature delivery during the current COVID-19 pandemic. The authors compared pregnancy outcomes at St.Georges

University Hospital during two time periods: 1st October 2019 - 31st January 2020 (prior to the first reported cases of COVID-19 in the UK), and from 1st February 2020 - 14th June 2020. The study found an increase in the number of stillbirths during the pandemic, but no significant changes in the rate of premature births. (JSM)

20200723-6*

Hospital visiting during the coronavirus outbreak: guidance [Last updated 15 July 2020]. Welsh Government (2020), Cardiff: Welsh Government 22 April 2020
Available from: https://gov.wales/hospital-visiting-during-coronavirus-outbreak-guidance#section-46536
Full URL: https://gov.wales/hospital-visiting-during-coronavirus-outbreak-guidance#section-46536

Gives guidance on how the NHS can support hospital visiting in a safe and planned way during the coronavirus pandemic. Annex 2 sets out the principles for pregnant women attending pre-planned antenatal appointments in Wales, and updates guidance on the presence of partners at antenatal appointments and scans, and in labour and delivery. (JSM)

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)

20200722-81*

Danish premature birth rates during the COVID-19 lockdown. Hedermann G, Hedley PL, Baekvad-Hansen M, et al (2021), Archives of Disease in Childhood: Fetal and Neonatal Edition vol 106, no 1, January 2021, pp 93-95
Available from: http://dx.doi.org/10.1136/archdischild-2020-319990
Full URL: http://dx.doi.org/10.1136/archdischild-2020-319990

To explore the impact of COVID-19 lockdown on premature birth rates in Denmark, a nationwide register-based prevalence proportion study was conducted on all 31 180 live singleton infants born in Denmark between 12 March and 14 April during 2015-2020.
The distribution of gestational ages (GAs) was significantly different (p=0.004) during the lockdown period compared with the previous 5 years and was driven by a significantly lower rate of extremely premature children during the lockdown compared with the corresponding mean rate for the same dates in the previous years (OR 0.09, 95% CI 0.01 to 0.40, p<0.001). No significant difference between the lockdown and previous years was found for other GA categories.
The reasons for this decrease are unclear. However, the lockdown has provided a unique opportunity to examine possible factors related to prematurity. Identification of possible causal mechanisms might stimulate changes in clinical practice. (Author)

20200722-80*

Reduction in preterm births during the COVID-19 lockdown in Ireland: a natural experiment allowing analysis of data from the prior two decades. Philip RK, Purtill H, Reidy E, et al (2020), MedRxiv 5 June 2020, online
Available from: https://doi.org/10.1101/2020.06.03.20121442

Full URL: https://doi.org/10.1101/2020.06.03.20121442

Background: Aetiology of preterm birth (PTB) is heterogeneous and preventive strategies remain elusive. Socio-environmental measures implemented as Ireland's prudent response to the SARS-CoV-2 virus (COVID-19) pandemic represented, in effect, a national lockdown and have possibly influenced the health and wellbeing of pregnant women and unborn infants. Cumulative impact of such socio-environmental factors operating contemporaneously on PTB has never been assessed before. Methods: Regional PTB trends of very low birth weight (VLBW) infants in one designated health area of Ireland over two decades were analysed. Poisson regression and rate ratio analyses with 95% CI were conducted. Observed regional data from January to April 2020 were compared to historical regional and national data and forecasted national figures for 2020. Results: Poisson regression analysis found that the regional historical VLBW rate per 1000 live births for January to April, 2001 to 2019 was 8.18 (95% CI: 7.21, 9.29). During January to April 2020, an unusually low VLBW rate of just 2.17 per 1000 live births was observed. The rate ratio of 3.77 (95% CI: 1.21, 11.75), p = 0.022, estimates that for the last two decades there was, on average, 3.77 times the rate of VLBW, compared to the period January to April 2020 during which there is a 73% reduction. National Irish VLBW rate for 2020 is forecasted to be reduced to 400 per 60,000 births compared to historical 500 to 600 range. Conclusion: An unprecedented reduction in PTB of VLBW infants was observed in one health region of Ireland during the COVID-19 lockdown. Potential determinants of this unique temporal trend reside in the summative socio-environmental impact of the COVID-19 dictated lockdown. Our findings, if mirrored in other regions that have adopted similar measures to combat the pandemic, demonstrate the potential to evaluate these implicated interdependent behavioural and socio-environmental modifiers to positively influence PTB rates globally. (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]

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

Full URL: 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)

20200721-47*

A positive induction during Covid-19. Colquhoun F (2020), AIMS Journal vol 32, no 2, June 2020
Available from: https://www.aims.org.uk/journal/item/covid-19-frances-colquhoun
Full URL: https://www.aims.org.uk/journal/item/covid-19-frances-colquhoun

The author describes her experience of giving birth to her daughter, following an induced labour during the Covid-19 pandemic. (JSM)

20200714-4*

Maternal mental health in the time of the COVID-19 pandemic. Thapa SB, Mainali A, Schwank SE, et al (2020), Acta Obstetricia et Gynecologica Scandinavica vol 99, no 7, July 2020, pp 817-818
Available from: https://doi.org/10.1111/aogs.13894
Full URL: https://doi.org/10.1111/aogs.13894

Editorial on the increased risks of developing mental health problems among pregnant women during the COVID-19 pandemic. Public health measures such as physical distancing and isolation during pregnancy and the intrapartum period may cause additional anxiety and distress. Recommends the use of online psychological support, screening tools and counselling. (LDO)

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)

20200707-14*

Induction of labour in a pandemic. A rapid analytic scoping review [Version 2]. Cheyne H, Downe S, Hunter B, et al on behalf of the Royal College of Midwives (2020), London: RCM 7 April 2020. 14 pages
Available from:
https://www.rcm.org.uk/media/3924/professional-clinical-briefing-no-7-intrapartum-care-with-symptomsmrd010520.pdf

Rapid review addressing several issues relating to induction of labour during a pandemic, focusing on intraprtum care for women with suspected COVID-19: expectant management versus induction of labour for prolonged pregnancy; the impact of current policy on reduced fetal movements; and the risks and benefits of outpatient cervical ripening. (JSM)

20200707-12*

Face-coverings and care in labour for all women. Royal College of Midwives (2020), London: RCM 1 July 2020. 4 pages
Available from: https://www.rcm.org.uk/media/4151/clinical-briefing-face-mask.pdf
Full URL: https://www.rcm.org.uk/media/4151/clinical-briefing-face-mask.pdf

Guidance from the Royal College of Midwives (RCM) on whether it should be recommended that women wear face-coverings or facemasks during labour and birth. (Author, edited)

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)

20200629-31*

Testing of Patients and Support Persons for Coronavirus Disease 2019 (COVID-19) Infection Before Scheduled Deliveries. Bianco A, Buckley AB, Overbey J, et al (2020), Obstetrics & Gynecology vol 136, no 2, August 2020, pp 283-287

Available from: https://doi.org/10.1097/AOG.0000000000003985
Full URL: https://doi.org/10.1097/AOG.0000000000003985

OBJECTIVE:
To evaluate the rate of coronavirus disease 2019 (COVID-19) infection with the use of universal testing in our obstetric population presenting for scheduled deliveries, as well as the concordance or discordance rate among their support persons during the initial 2-week period of testing. Additionally, we assessed the utility of a screening tool in predicting severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) testing results in our cohort.
METHODS:
This was an observational study in which all women who were scheduled for a planned delivery within the Mount Sinai Health system from April 4 to April 15, 2020, were contacted and provided with an appointment for themselves as well as their support persons to undergo COVID-19 testing 1 day before their scheduled delivery. Both the patients and the support persons were administered a standardized screen specific for COVID-19 infection by telephone interview. Those support persons who screened positive were not permitted to attend the birth. All patients and screen-negative support persons underwent SARS-CoV-2 testing.
RESULTS:
During the study period, 155 patients and 146 support persons underwent SARS-CoV-2 testing. The prevalence of asymptomatic COVID-19 infection was 15.5% (CI 9.8-21.2%) and 9.6% (CI 4.8-14.4%) among patients and support persons, respectively. The rate of discordance among tested pairs was 7.5%. Among patients with COVID-19 infection, 58% of their support persons also had infection; in patients without infection, fewer than 3.0% of their support persons had infection.
CONCLUSION:
We found that more than 15% of asymptomatic maternity patients tested positive for SARS-CoV-2 infection despite

having screened negative with the use of a telephone screening tool. Additionally, 58% of their asymptomatic, screen-negative support persons also tested positive for SARS-CoV-2 infection. Alternatively, testing of the support persons of women who had tested negative for COVID-19 infection had a low yield for positive results. This has important implications for obstetric and newborn care practices as well as for health care professionals. (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)

20200629-12*

Coronavirus Disease 2019 (COVID-19) and Pregnancy: Combating Isolation to Improve Outcomes. Jago CA, Singh SS, Moretti F (2020), Obstetrics & Gynecology vol 136, no 1, July 2020, pp 33-36

Available from: https://doi.org/10.1097/AOG.0000000000003946

Full URL: https://doi.org/10.1097/AOG.0000000000003946

With the current global coronavirus disease 2019 (COVID-19) pandemic, new challenges arise as social distancing and isolation have become the standard for safety. Evidence supports the protective benefits of social connections and

support during pregnancy and labor; there are increased maternal, fetal, and pregnancy risks when pregnant and laboring women lack support. As health care professionals take appropriate precautions to protect patients and themselves from infection, there must be a balance to ensure that we do not neglect the importance of social and emotional support during important milestones such as pregnancy and childbirth. Resources are available to help pregnant women, and technology represents an opportunity for innovation in providing care. (Author)

20200626-67*

Management of a delivery suite during the COVID-19 epidemic. Qi H, Chen M, Luo X, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 250, July 2020, pp 250-252
Available from: https://doi.org/10.1016/j.ejogrb.2020.05.031
Full URL: https://doi.org/10.1016/j.ejogrb.2020.05.031

Background

Since the first report of the new coronavirus (COVID-19) infection in December of 2019, it has become rapidly prevalent and been declared as a Public Health Emergency of International Concern by the World Health Organization. There are quite a few cases reported involving delivery with COVID-19 infection, but little valuable suggestion was provided about what healthcare providers of obstetrics and neonatology should do in their clinic practice for unknown status or presumed negative women. Here, we summarized the current practice of delivery management in China that successfully prevented rapid increase in adverse pregnancy outcomes and nosocomial infection in departments of obstetrics and neonatology during the pandemic of COVID-19. (Author)

20200626-43*

Coronavirus disease 2019 among pregnant Chinese women: case series data on the safety of vaginal birth and breastfeeding. Wu Y, Liu C, Dong L, et al (2020), BJOG: An International Journal of Obstetrics and Gynaecology vol 127, no 9, August 2020, pp 1109-1115
Available from: https://doi.org/10.1111/1471-0528.16276
Full URL: https://doi.org/10.1111/1471-0528.16276

Objective

To assess whether vaginal secretions and breast milk of women with coronavirus disease 2019 (COVID-19) contain severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Design

Single centre cohort study.

Setting

Renmin Hospital of Wuhan University, Wuhan, Hubei province, China.

Population

We studied 13 SARS-CoV-2-infected pregnant women diagnosed between 31 January and 9 March 2020.

Methods

We collected clinical data, vaginal secretions, stool specimens and breast milk from SARS-CoV-2-infected women during different stages of pregnancy and collected neonatal throat and anal swabs.

Main outcomes and measures

We assessed viral presence in different biosamples.

Results

Of the 13 women with COVID-19, five were in their first trimester, three in their second trimester and five in their third trimester. Of the five women in their third trimester who gave birth, all delivered live newborns. Among these five deliveries, the primary adverse perinatal outcomes included premature delivery (n = 2) and neonatal pneumonia (n = 2). One of nine stool samples was positive; all 13 vaginal secretion samples, and five throat swabs and four anal

swabs collected from neonates, were negative for the novel coronavirus. However, one of three samples of breast milk was positive by viral nucleic acid testing.
Conclusions
In this case series of 13 pregnant women with COVID-19, we observed negative viral test results in vaginal secretion specimens, suggesting that a vaginal delivery may be a safe delivery option. However, additional research is urgently needed to examine breast milk and the potential risk for viral contamination.
Tweetable abstract
New evidence for the safety of vaginal delivery and breastfeeding in pregnant women infected with SARS-CoV-2, positive viral result in a breast-milk sample. (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)

20200624-69*

Labor and Delivery Visitor Policies During the COVID-19 Pandemic: Balancing Risks and Benefits. Arora KS, Mauch JT, Gibson KS, et al (2020), JAMA (Journal of the American Medical Association) vol 323, no 24, 23/30 June 2020, pp 2468-2469

Discusses variations in labour ward visitor policies during the Covid-19 pandemic. (MB)

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)

20200623-55*

No Change in Cesarean Section Rate During COVID-19 Pandemic in New York City. Malhotra Y, Miller R, Bajaj K, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 253, October 2020, pp 328-329
Available from: https://doi.org/10.1016/j.ejogrb.2020.06.010
Full URL: https://doi.org/10.1016/j.ejogrb.2020.06.010

Discusses the caesarean section rate in New York City during the COVID-19 pandemic. Reports that SARS-CoV-2 infection did not affect mode of delivery between 8 March 2020 and 20 April 2020. (LDO)

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)

20200619-35*

COVID-19 as a risk factor for obstetric violence. Sadler M, Leiva G, Olza I (2020), Sexual and Reproductive Health Matters 19 June 2020, online

Available from: https://doi.org/10.1080/26410397.2020.1785379

Full URL: https://doi.org/10.1080/26410397.2020.1785379

Argues that some restrictions and interventions being imposed on childbearing women during the current COVID-19 pandemic amount to obstetric violence as they are unnecessary, are not based on scientific evidence and are an abuse of human dignity. (JSM)

20200616-78*

The Relationship between Status at Presentation and Outcomes among Pregnant Women with COVID-19. London V, McLaren Jr R, Atallah F, et al (2020), American Journal of Perinatology vol 37, no 10, August 2020, pp 991-994

Available from: https://doi.org/10.1055/s-0040-1712164

Full URL: https://doi.org/10.1055/s-0040-1712164

Objective This study was aimed to compare maternal and pregnancy outcomes of symptomatic and asymptomatic pregnant women with novel coronavirus disease 2019 (COVID-19).
Study Design This is a retrospective cohort study of pregnant women with COVID-19. Pregnant women were divided into two groups based on status at admission, symptomatic or asymptomatic. All testing was done by nasopharyngeal swab using polymerase chain reaction (PCR) for severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2). Initially, nasopharyngeal testing was performed only on women with a positive screen (symptoms or exposure) but subsequently, testing was universally performed on all women admitted to labor and delivery. Chi-square and Wilcoxon's rank-sum tests were used to compare outcomes between groups.
Results Eighty-one patients were tested because of a positive screen (symptoms [n = 60] or exposure only [n = 21]) and 75 patients were universally tested (all asymptomatic). In total, there were 46 symptomatic women and 22 asymptomatic women (tested based on exposure only [n = 12] or as part of universal screening [n = 10]) with confirmed COVID-19. Of symptomatic women (n = 46), 27.3% had preterm delivery and 26.1% needed respiratory support while none of the asymptomatic women (n = 22) had preterm delivery or need of respiratory support (p = 0.007 and 0.01, respectively).
Conclusion Pregnant women who presented with COVID19-related symptoms and subsequently tested positive for COVID-19 have a higher rate of preterm delivery and need for respiratory support than asymptomatic pregnant women. It is important to be particularly rigorous in caring for COVID-19 infected pregnant women who present with symptoms. (Author)

20200616-43*

A Survey of Labor and Delivery Practices in New York City during the COVID-19 Pandemic. Peña JA, Bianco AT, Simpson LL, et al (2020), American Journal of Perinatology vol 37, no 10, August 2020, pp 975-981

Available from: https://doi.org/10.1055/s-0040-1713120

Full URL: https://doi.org/10.1055/s-0040-1713120

Recently, a novel coronavirus, precisely severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2), that causes the disease novel coronavirus disease 2019 (COVID-19) has been declared a worldwide pandemic. Over a million cases have been confirmed in the United States. As of May 5, 2020, New York State has had over 300,000 cases and 24,000 deaths with more than half of the cases and deaths occurring in New York City (NYC). Little is known, however, of how

this virus impacts pregnancy. Given this lack of data and the risk for severe disease in this relatively immunocompromised population, further understanding of the obstetrical management of COVID-19, as well as hospital level preparation for its control, is crucial. Guidance has come from expert opinion, professional societies and public health agencies, but to date, there is no report on how obstetrical practices have adapted these recommendations to their local situations. We therefore developed an internet-based survey to elucidate the practices put into place to guide the care of obstetrical patients during the COVID-19 pandemic. We surveyed obstetrical leaders in four academic medical centers in NYC who were implementing and testing protocols at the height of the pandemic. We found that all sites made changes to their practices, and that there appeared to be agreement with screening and testing for COVID-19, as well as labor and delivery protocols, for SARS-CoV-2-positive patients. We found less consensus with respect to inpatient antepartum fetal surveillance. We hope that this experience is useful to other centers as they formulate their plans to face this pandemic. (Author)

20200615-3*

Delivery for respiratory compromise among pregnant women with coronavirus disease 2019. McLaren Jr RA, London V, Atallah F, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) vol 223, no 3, September 2020, pp 451-453

Available from: https://doi.org/10.1016/j.ajog.2020.05.035
Full URL: https://doi.org/10.1016/j.ajog.2020.05.035

Retrospective observational study of delivery and its impact on respiratory distress among women with COVID-19. Results show that delivery did not worsen the respiratory status of women with persistent oxygen desaturation. (LDO)

20200610-5*

Universal testing of patients and their support persons for severe acute respiratory syndrome coronavirus 2 when presenting for admission to labor and delivery at Mount Sinai Health System. Buckley A, Bianco A, Stone J (2020), American Journal of Obstetrics & Gynecology MFM vol 2, no 3, suppl, August 2020, 100147

Available from: https://doi.org/10.1016/j.ajogmf.2020.100147
Full URL: https://doi.org/10.1016/j.ajogmf.2020.100147

Discusses the policy to implement universal SARS-CoV-2 testing prior to admission to labour and delivery wards in the Mount Sinai Health System. Results revealed 50 SARS-CoV-2 infections among the 307 women tested. This policy may help to protect health care workers and direct the use of personal protective equipment (PPE). (LDO)

20200610-10*

Laboring alone? Brief thoughts on ethics and practical answers during the coronavirus disease 2019 pandemic. Ecker JL, Minkoff HL (2020), American Journal of Obstetrics & Gynecology MFM vol 2, no 3, suppl, August 2020, 100141

Available from: https://doi.org/10.1016/j.ajogmf.2020.100141
Full URL: https://doi.org/10.1016/j.ajogmf.2020.100141

Commentary on allowing partners in delivery rooms during the COVID-19 pandemic. The emotional and physical support provided by partners must be balanced with the safety of health care workers. The authors conclude that partners should be permitted where there is appropriate personal protective equipment and screening measures. (LDO)

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)

20200525-26*
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)

20200525-11*

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)

20200521-40*

Successful Treatment of Preterm Labor in Association with Acute COVID-19 Infection. Browne PC, Linfert JB, Perez-Jorge E (2020), American Journal of Perinatology vol 37, no 8, June 2020, pp 866-868
Available from: https://doi.10.1055/s-0040-1709993
Full URL: https://doi.10.1055/s-0040-1709993

Novel coronavirus disease 2019 (COVID-19) infection occurring during pregnancy is associated with an increased risk of preterm delivery. This case report describes successful treatment of preterm labor during acute COVID-19 infection. Standard treatment for preterm labor may allow patients with acute COVID-19 infection to recover without the need for preterm delivery. (Author)

20200518-27*

Emergency Caesarean delivery in a patient with confirmed COVID-19 under spinal anaesthesia. Xia H, Zhao S, Wu Z, et al (2020), British Journal of Anaesthesia vol 124, no 5, May 2020, pp E216-E218
Available from: https://doi.org/10.1016/j.bja.2020.02.016
Full URL: https://doi.org/10.1016/j.bja.2020.02.016

Reports the case of a 27-year old woman who was admitted to hospital at 36 weeks and 5 days' gestation due to fever. The woman, who was delivered by emergency caesarean section due to below normal oxygen saturation levels and reduced fetal movements, later tested positive for COVOD-19. (MB)

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)

20200514-73*

Coronavirus: Planning your birth. NHS England (2020), London: NHS England May 2020. 2 pages
Available from:
https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/05/C0441-maternity-leaflets-cv19-planning-your-birth.pdf

Consumer information emphasising that maternity services are still open during the current coronavirus pandemic, and encouraging women to contact their midwife or maternity services if they are at all concerned about their own health or the health of their baby. Advises women to document their birth plans and choices, as this will help guide the maternity professionals in providing women with the best birth experience possible. (JSM)

20200514-67*

Coronavirus disease 2019 during pregnancy: a systematic review of reported cases. Gatta AND, Rizzo R, Pilu G, et al (2020),
American Journal of Obstetrics & Gynecology (AJOG) vol 223, no 1, July 2020, pp 36-41
Available from: https://doi.org/10.1016/j.ajog.2020.04.013
Full URL: https://doi.org/10.1016/j.ajog.2020.04.013

Objective
This study aimed to conduct a systematic review of the clinical outcomes reported for pregnant patients with coronavirus disease 2019.
Data Sources
The PubMed, CINAHL, and Scopus databases were searched using a combination of key words such as 'Coronavirus and/or pregnancy,' 'COVID and/or pregnancy,' 'COVID disease and/or pregnancy,' and 'COVID pneumonia and/or pregnancy.' There was no restriction of language to allow collection of as many cases as possible.
Study Eligibility Criteria
All studies of pregnant women who received a coronavirus disease 2019 diagnosis using acid nucleic test, with reported data about pregnancy, and, in case of delivery, reported outcomes, were included.
Study Appraisal and Synthesis Methods
All the studies included have been evaluated according to the tool for evaluating the methodological quality of case reports and case series described by Murad et al.
Results
Six studies that involved 51 pregnant women were eligible for the systematic review. At the time of the report, 3 pregnancies were ongoing; of the remaining 48 pregnant women, 46 gave birth by cesarean delivery, and 2 gave birth vaginally; in this study, 1 stillbirth and 1 neonatal death were reported.
Conclusion
Although vertical transmission of severe acute respiratory syndrome coronavirus 2 infection has been excluded thus far and the outcome for mothers and neonates has been generally good, the high rate of preterm delivery by cesarean

delivery is a reason for concern. Cesarean delivery was typically an elective surgical intervention, and it is reasonable to question whether cesarean delivery for pregnant patients with coronavirus disease 2019 was warranted. Coronavirus disease 2019 associated with respiratory insufficiency in late pregnancies certainly creates a complex clinical scenario. (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)

20200514-4*

Vaginal delivery in a woman infected with SARS-CoV-2 - the first case reported in Portugal. Polónia-Valente R, Moucho M, Tavares M, et al (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 250, July 2020, pp 253-254
Available from: https://doi.org/10.1016/j.ejogrb.2020.05.007
Full URL: https://doi.org/10.1016/j.ejogrb.2020.05.007

Discusses the case of a 31-year-old woman at 38 weeks' gestation who was admitted at the obstetrical emergency department and tested positive for SARS-CoV-2. The patient was in the latent phase of labour and complained of mild uterine contractions. An operative vaginal delivery and fetal vacuum extraction were subsequently performed in order to shorten the second stage of labour. (LDO)

20200513-97*

Reflections on COVID-19. Lowe NK (2020), JOGNN: Journal of Obstetric, Gynecologic and Neonatal Nursing vol 49, no 3, May 2020, pp 223-224
Available from: https://doi.org/10.1016/j.jogn.2020.04.002
Full URL: https://doi.org/10.1016/j.jogn.2020.04.002

Editorial reflecting on the changes we have undergone to our personal and professional lives since the COVID-19 pandemic began. Raises concerns that some New York hospitals were not allowing women in labour to have one support person with them, despite research stressing the importance of support in labour to patient care, even during the coronavirus crisis. Explains how hospital policies such as these have been overturned by an executive order issued by New York's Governor, Andrew Cuomo, on March 27 2020, which stipulates that all public and private hospitals in New York must comply with the latest guidance from the New York State Department of Health, that all women must be allowed to have a partner with them in the labour and delivery room. (JSM)

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)

20200512-8*

Screening all pregnant women admitted to labor and delivery for the virus responsible for coronavirus disease 2019. Vintzileos WS, Muscat J, Hoffmann E, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) vol 223, no 2, August 2020, pp 284-286
Available from: https://doi.org/10.1016/j.ajog.2020.04.024
Full URL: https://doi.org/10.1016/j.ajog.2020.04.024

This research letter discusses a study to determine the accuracy of maternal symptomatology in predicting COVID-19 infections. The results showed that 66% of women who tested positive for COVID-19 were asymptomatic. (LDO)

20200511-62*

Severe acute respiratory syndrome coronavirus 2 detection in the female lower genital tract. Cui P, Chen Z, Wang T, et al (2020), American Journal of Obstetrics & Gynecology (AJOG) vol 223, no 1, July 2020, pp 131-134
Available from: https://doi.org/10.1016/j.ajog.2020.04.038
Full URL: https://doi.org/10.1016/j.ajog.2020.04.038

This research letter discusses the existence of SARS-CoV-2 in the female lower genital tract. Among the 35 participants in this study SARS-CoV-2 was not found in vaginal fluid and cervical exfoliated cells. This suggests that the female lower genital tract may not be a transmission route for the virus, and has implications for mode of delivery in SARS-CoV-2 infected pregnant women. (LDO)

20200507-10*

Coronavirus: Am I at risk during pregnancy?. Roxby P (2020), BBC News 7 May 2020
Available from: https://www.bbc.co.uk/news/health-52474213
Full URL: https://www.bbc.co.uk/news/health-52474213

As a precaution, pregnant women have been told to be particularly strict about avoiding social contact, so they reduce their risk of catching coronavirus. But what do we know about its impact on pregnancy? (Author)

20200505-13*

Guidance for provision of midwife-led settings and home birth in the evolving coronavirus (COVID-19) pandemic. Royal College of Obstetricians and Gynaecologists, Royal College of Midwives (2020), Royal College of Obstetricians and Gynaecologists (RCOG) 17 April 2020
Available from:
https://www.rcog.org.uk/globalassets/documents/guidelines/2020-04-17-guidance-for-provision-of-midwife-led-settings.pdf

Guidance on the safety of midwife-led birth settings and home birth during the COVID-19 pandemic. Suggests that birthplace options may become more limited if services are centralised as a result of the pandemic. (LDO)

20200505-11*

Coronavirus COVID-19: Supporting healthy pregnant women to safely give birth. Burns E, Feeley C, Venderlaan J, et al (2020), Oxford: Oxford Brookes University 29 April 2020, 4 pages
Available from: https://www.brookes.ac.uk/WorkArea/DownloadAsset.aspx?id=2147622699
Full URL: https://www.brookes.ac.uk/WorkArea/DownloadAsset.aspx?id=2147622699

Guidance on the safety of water birth during the COVID-19 pandemic. Suggests that birthing pools are low risk for the transmission of the virus and should be encouraged as an effective method of analgesia. (LDO)

20200429-35*

General Guidelines in the Management of an Obstetrical Patient on the Labor and Delivery Unit during the COVID-19 Pandemic. Stephens AJ, Barton JR, Bentum NA, et al (2020), American Journal of Perinatology vol 37, no 8, June 2020, pp 829-836

Available from: https://doi.org/10.1055/s-0040-1710308
Full URL: https://doi.org/10.1055/s-0040-1710308

Novel coronavirus disease 2019 (COVID-19) is a respiratory tract infection that was first identified in China. Since its emergence in December 2019, the virus has rapidly spread, transcending geographic barriers. The World Health Organization and the Centers for Disease Control and Prevention have declared COVID-19 as a public health crisis. Data regarding COVID-19 in pregnancy is limited, consisting of case reports and small cohort studies. However, obstetric patients are not immune from the current COVID-19 pandemic, and obstetric care will inevitably be impacted by the current epidemic. As such, clinical protocols and practice on labor and delivery units must adapt to optimize the safety of patients and health care workers and to better conserve health care resources. In this commentary, we provide suggestions to meet these goals without impacting maternal or neonatal outcomes. (Author)

20200427-28*

Labor and Delivery Guidance for COVID-19. Boelig RC, Manuck T, Oliver EA, et al (2020), American Journal of Obstetrics & Gynecology MFM vol 2, no 2, suppl, May 2020, 100110

Available from: https://doi.org/10.1016/j.ajogmf.2020.100110
Full URL: https://doi.org/10.1016/j.ajogmf.2020.100110

Guidance on labour and delivery during the COVID-19 pandemic. Includes screening before admission, the use of personal protective equipment (PPE) and intrapartum and postpartum care. The authors also present specific guidance on caring for confirmed COVID-19 patients and critically ill COVID-19 patients. (LDO)

20200427-11*

Forecasting the Impact of Coronavirus Disease During Delivery Hospitalization: An Aid for Resources Utilization. Putra M, Kesavan M, Brackney K, et al (2020), American Journal of Obstetrics & Gynecology MFM vol 2, no 3, suppl, August 2020, 100127

Available from: https://doi.org/10.1016/j.ajogmf.2020.100127
Full URL: https://doi.org/10.1016/j.ajogmf.2020.100127

Background

The ongoing Coronavirus disease (COVID-19) pandemic has severely impacted the United States. In cases of infectious disease outbreak, forecasting models are often developed for resources utilization. Pregnancy and delivery pose unique challenges, given the altered maternal immune system and the fact that the majority of American women choose to deliver in the hospital setting.

Objectives

The aim of our study is to forecast the incidence of COVID-19 in general population and to forecast the overall incidence, severe cases, critical cases and fatal COVID-19 cases during delivery hospitalization in the United States.

Study design

We use a phenomenological model with generalized logistic growth models to forecast the incidence of COVID-19 in the United States from 4/15/2020 - 12/31/2020. Incidence data from 3/1/2020 - 4/14/2020 were used to provide best-fit model solution. Subsequently, Monte-Carlo simulation was performed for each week from 3/1/2020 - 12/31/2020 to estimate the incidence of COVID-19 in delivery hospitalizations using the available data estimate.

Results
From 3/1/2020 - 12/31/2020, our model forecasted a total of 860,475 cases of COVID-19 in general population across the United States. The cumulative incidence for COVID-19 during delivery hospitalization is anticipated to be 16,601 (95% CI, 9,711 - 23,491) cases. Among those, 3,308 (95% CI, 1,755 - 4,861) cases are expected to be severe, 681 (95% CI, 1324 - 1,038) critical and 52 (95% CI, 23 - 81) maternal mortality. Assuming similar baseline maternal mortality rate as the year of 2018, we projected an increase in maternal mortality rate in the US to at least 18.7 (95% CI, 18.0 - 19.5) deaths per 100,000 live birth as a direct result of COVID-19.
Conclusions
COVID-19 infection in pregnant women is expected to severely impact obstetrical care. From 3/1/2020 - 12/31/2020, we project 3,308 severe and 681 critical cases, with about 52 COVID-19 related maternal mortalities during delivery hospitalization in the United States. These data might be helpful for counseling and resource allocation. (Author)

20200424-6*

Coronavirus in pregnancy and delivery: rapid review. Mullins E, Evans D, Viner RM, et al (2020), Ultrasound in Obsetrics and Gynecology 17 March 2020, online
Available from: https://obgyn.onlinelibrary.wiley.com/doi/epdf/10.1002/uog.22014
Full URL: https://obgyn.onlinelibrary.wiley.com/doi/epdf/10.1002/uog.22014

OBJECTIVES:
Person-to-person spread of COVID-19 in the UK has now been confirmed. There are limited case series reporting the impact on women affected by coronavirus during pregnancy. In women affected by severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), the case fatality rate appeared higher in those affected in pregnancy compared with non-pregnant women. We conducted a rapid review to guide health policy and management of women affected by COVID-19 during pregnancy, which was used to develop the Royal College of Obstetricians and Gynaecologists' (RCOG) guidelines on COVID-19 infection in pregnancy.
METHODS:
Searches were conducted in PubMed and MedRxiv to identify primary case reports, case series, observational studies and randomized controlled trials describing women affected by coronavirus in pregnancy. Data were extracted from relevant papers. This review has been used to develop guidelines with representatives of the Royal College of Paediatrics and Child Health (RCPCH) and RCOG who provided expert consensus on areas in which data were lacking.
RESULTS:
From 9965 search results in PubMed and 600 in MedRxiv, 23 relevant studies, all of which were case reports or case series, were identified. From reports of 32 women to date affected by COVID-19 in pregnancy, delivering 30 babies (one set of twins, three ongoing pregnancies), seven (22%) were asymptomatic and two (6%) were admitted to the intensive care unit (ICU), one of whom remained on extracorporeal membrane oxygenation. No maternal deaths have been reported to date. Delivery was by Cesarean section in 27 cases and by vaginal delivery in two, and 15 (47%) delivered preterm. There was one stillbirth and one neonatal death. In 25 babies, no cases of vertical transmission were reported; 15 were reported as being tested with reverse transcription polymerase chain reaction after delivery. Case fatality rates for SARS and MERS were 15% and 27%, respectively. SARS was associated with miscarriage or intrauterine death in five cases, and fetal growth restriction was noted in two ongoing pregnancies affected by SARS in the third trimester.
CONCLUSIONS:
Serious morbidity occurred in 2/32 women with COVID-19, both of whom required ICU care. Compared with SARS and MERS, COVID-19 appears less lethal, acknowledging the limited number of cases reported to date and that one woman remains in a critical condition. Preterm delivery affected 47% of women hospitalized with COVID-19, which may put considerable pressure on neonatal services if the UK's reasonable worst-case scenario of 80% of the population being affected is realized. Based on this review, RCOG, in consultation with RCPCH, developed guidance

for delivery and neonatal care in pregnancies affected by COVID-19, which recommends that delivery mode be determined primarily by obstetric indication and recommends against routine separation of affected mothers and their babies. We hope that this review will be helpful for maternity and neonatal services planning their response to COVID-19. (Author)

20200424-28*
Coronavirus: Uncertainty over maternity care causing distress. Collinson A (2020), BBC News 24 April 2020
Available from: https://www.bbc.co.uk/news/health-52356067
Full URL: https://www.bbc.co.uk/news/health-52356067
Reports that the uncertainly caused by a reduction in maternity services owing to the coronavirus pandemic iscausing anxiety and stress among pregnant women, who are not sure if they will be allowed to have a home birth, or if their partner will be allowed to stay with them while they are in labour. States that there is variation between Trusts, and the Royal College of Midwives (RCM) states that staff shortages owing to sickness and self-isolation are impacting resources. Includes comments from pregnant women, new mothers, and RCM Chief Executive Officer Gill Walton. (JSM)

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)

20200422-35*
Operating Room Guide for Confirmed or Suspected COVID-19 Pregnant Patients Requiring Cesarean Delivery.
Gonzalez-Brown VM, Reno J, Lortz H, et al (2020), American Journal of Perinatology vol 37, no 8, June 2020, pp 825-828
Available from: https://doi.org/10.1055/s-0040-1709683
Full URL: https://doi.org/10.1055/s-0040-1709683
We sought to provide a clinical practice protocol for our labor and delivery (L&D) unit, to care for confirmed or suspected COVID-19 patients requiring cesarean delivery. A multidisciplinary team approach guidance was designed to simplify and streamline the flow and care of patient with confirmed or suspected COVID-19 requiring cesarean delivery. A protocol was designed to improve staff readiness, minimize risks, and streamline care processes. This is a suggested protocol which may not be applicable to all health care settings but can be adapted to local resources and limitations of individual L&D units. Guidance and information are changing rapidly; therefore, we recommend continuing to update the protocol as needed. (Author)

20200421-18*
Specialty guides for patient management during the coronavirus pandemic: Clinical guide for the temporary reorganisation of intrapartum maternity care during the coronavirus pandemic. NHS England (2020), London: NHS England 9 April 2020

Available from:
https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0241-specialty-guide-intrapartum-maternity-care-9-april-2020.pdf

Explains that The COVID-19 pandemic has presented a significant challenge for the NHS: the provision of high quality care for those experiencing serious symptoms of the virus needs to be balanced with the safe delivery of core non-elective services, such as maternity, a service strongly focused on safety and with very limited opportunities to reduce demand. This challenge will inevitably mean that some clinical staff are deployed to areas of hospitals they do not usually work in. At the same time, many midwives, obstetricians, anaesthetists and support staff are in self-isolation, temporarily reducing the available maternity workforce, with varying and sometimes significant impacts felt locally. This document sets out how safe services in the provision of intrapartum maternity care should be maintained and how decisions about reorganisation of services should be taken. The appendix provides a template for communicating changes in the services to local women and their families. It has been produced in consultation with the Royal College of Midwives (RCM), Royal College of Obstetricians and Gynaecologists (RCOG), the Royal College of Anaesthetists, the Obstetric Anaesthetists Association and maternity service user representatives. (Author, edited)

20200420-31*

Expert consensus for managing pregnant women and neonates born to mothers with suspected or confirmed novel coronavirus (COVID-19) infection. Chen D, Yang H, Cao Y, et al (2020), International Journal of Gynecology & Obstetrics vol 149, no 2, May 2020, pp 130-136

Available from: https://doi.org/10.1002/ijgo.13146

Full URL: https://doi.org/10.1002/ijgo.13146

Objective

To provide clinical management guidelines for novel coronavirus (COVID-19) in pregnancy.

Methods

On February 5, 2020, a multidisciplinary teleconference comprising Chinese physicians and researchers was held and medical management strategies of COVID-19 infection in pregnancy were discussed.

Results

Ten key recommendations were provided for the management of COVID-19 infections in pregnancy.

Conclusion

Currently, there is no clear evidence regarding optimal delivery timing, the safety of vaginal delivery, or whether cesarean delivery prevents vertical transmission at the time of delivery; therefore, route of delivery and delivery timing should be individualized based on obstetrical indications and maternal-fetal status. (Author) [Erratum: International Journal of Gynecology & Obstetrics, 12 May 2020, online: https://doi.org/10.1002/ijgo.13181]

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)

20200416-17*

Intrapartum care of women with COVID-19: a practical approach. Sichitiu J, Desseauve D (2020), European Journal of Obstetrics & Gynecology and Reproductive Biology vol 249, June 2020, pp 94-95
Available from: https://doi.org/10.1016/j.ejogrb.2020.04.018
Full URL: https://doi.org/10.1016/j.ejogrb.2020.04.018

The authors present a comprehensive bulletin for caregivers to access the latest information on COVID-19. The bulletin is based on recommendations from four international bodies, including the Royal College of Obstetricians and Gynaecologists. (LDO)

20200415-31*

Freebirth, Unassisted Childbirth and Unassisted Pregnancy. Association for Improvements in the Maternity Services (2020), London: AIMS 30 March 2020
Available from: https://www.aims.org.uk/information/item/freebirth
Full URL: https://www.aims.org.uk/information/item/freebirth

Consumer information from AIMS on freebirth, also known as unassisted or unattended childbirth. Includes sections on legal issues, freebirth in the COVID-19 pandemic, and information and support resources. (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)

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)

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)

20200408-13*

Maternal and neonatal outcomes of pregnant women with COVID-19 pneumonia: a case-control study. Li N, Han L, Peng M, et al (2020), MedRxiv 13 March 2020, online
Available from: https://doi.org/10.1101/2020.03.10.20033605
Full URL: https://doi.org/10.1101/2020.03.10.20033605

Background: The ongoing epidemics of coronavirus disease 2019 (COVID-19) have caused serious concerns about its potential adverse effects on pregnancy. There are limited data on maternal and neonatal outcomes of pregnant women with COVID-19 pneumonia. Methods: We conducted a case-control study to compare clinical characteristics, maternal and neonatal outcomes of pregnant women with and without COVID-19 pneumonia. Results: During January 24 to February 29, 2020, there were sixteen pregnant women with confirmed COVID-19 pneumonia and eighteen suspected cases who were admitted to labor in the third trimester. Two had vaginal delivery and the rest took cesarean section. Few patients presented respiratory symptoms (fever and cough) on admission, but most had typical chest CT images of COVID-19 pneumonia. Compared to the controls, COVID-19 pneumonia patients had lower counts of white blood cells (WBC), neutrophils, C-reactive protein (CRP), and alanine aminotransferase (ALT) on admission. Increased levels of WBC, neutrophils, eosinophils, and CRP were found in postpartum blood tests of pneumonia patients. There were three (18.8%) and two (10.5%) of the mothers with confirmed or suspected COVID-19 pneumonia had preterm delivery due to maternal complications, which were significantly higher than the control group. None experienced respiratory failure during hospital stay. COVID-19 infection was not found in the newborns and none developed severe neonatal complications. Conclusion: Severe maternal and neonatal complications were not observed in pregnant women with COVID-19 pneumonia who had vaginal delivery or caesarean section. Mild respiratory symptoms of pregnant women with COVID-19 pneumonia highlight the need of effective screening on admission. (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].

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)

20200403-11*

Birth in a pandemic: 'You are stronger than you think'. Brewer K (2020), BBC News 1 April 2020

Available from: https://www.bbc.co.uk/news/stories-52098036

Full URL: https://www.bbc.co.uk/news/stories-52098036

Reports that the coronavirus crisis is affecting many pregnant women's birth plans and leading some health trusts to increase home births. Includes personal experiences of women who have given birth under the current health guidance and restrictions imposed due to the COVID-19 pandemic. (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)

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=feedburner&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)

20200323-111*

Pregnancy and Perinatal Outcomes of Women With Coronavirus Disease. Liu D, Li L, Wu X, et al (2020), American Journal of Roentgenology 18 March 2020, online

OBJECTIVE. The purpose of this study was to describe the clinical manifestations and CT features of coronavirus disease (COVID-19) pneumonia in 15 pregnant women and to provide some initial evidence that can be used for guiding treatment of pregnant women with COVID-19 pneumonia.

MATERIALS AND METHODS. We reviewed the clinical data and CT examinations of 15 consecutive pregnant women with COVID-19 pneumonia in our hospital from January 20, 2020, to February 10, 2020. A semiquantitative CT scoring system was used to estimate pulmonary involvement and the time course of changes on chest CT. Symptoms and laboratory results were analyzed, treatment experiences were summarized, and clinical outcomes were tracked.

RESULTS. Eleven patients had successful delivery (10 cesarean deliveries and one vaginal delivery) during the study period, and four patients were still pregnant (three in the second trimester and one in the third trimester) at the end of the study period. No cases of neonatal asphyxia, neonatal death, stillbirth, or abortion were reported. The most common early finding on chest CT was ground-glass opacity (GGO). With disease progression, crazy paving pattern and consolidations were seen on CT. The abnormalities showed absorptive changes at the end of the study period for all patients. The most common onset symptoms of COVID-19 pneumonia in pregnant women were fever (13/15 patients) and cough (9/15 patients). The most common abnormal laboratory finding was lymphocytopenia (12/15 patients). CT images obtained before and after delivery showed no signs of pneumonia aggravation after delivery. The four patients who were still pregnant at the end of the study period were not treated with antiviral drugs but had achieved good recovery.

CONCLUSION. Pregnancy and childbirth did not aggravate the course of symptoms or CT features of COVID-19 pneumonia. All the cases of COVID-19 pneumonia in the pregnant women in our study were the mild type. All the women in this study-some of whom did not receive antiviral drugs-achieved good recovery from COVID-19 pneumonia. (Author)

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