

COVID-19 in Pregnancy – March 2021 update

The novel coronavirus disease COVID-19, caused by infection with the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), has become a global public health emergency. At the time of writing, more than 115 million people have been infected and the disease has caused close to 2.6 million deaths worldwide.¹

This statement is an update of a statement published by the Safe Motherhood and Newborn Health Committee on 30th March 2020, with a focus on maternal outcome, vertical transmission, breastfeeding and rooming in. The earlier statement has now been archived.

COVID-19 vaccination for pregnant and breastfeeding women is covered by a separate FIGO Statement that is [available on the FIGO website](#).

FIGO position

Severe maternal illness related to COVID-19

Early reports in pregnant women showed that the clinical course of COVID-19 is mild in the majority of cases (86%), severe in 9% and critical in 5%.² This is similar to the clinical course distribution seen among the non-pregnant population – mild (81%), severe (14%) or critical (5%).³ More recent data suggest pregnant women are at increased risk of severe COVID-19-associated illness compared with their non-pregnant counterparts,^{4–8} although the absolute risk for severe COVID-19 remains low. This includes an increased risk of intensive care unit (ICU) admission, mechanical ventilation, receiving extracorporeal membrane oxygenation (ECMO) and even death, after adjusting for age, race/ethnicity and underlying medical conditions.^{4,7}

Pre-existing comorbidities, such as co-existing respiratory and cardiovascular disease, diabetes, advanced maternal age and obesity, seem to be significant risk factors for severe COVID-19.^{4,6,9} In addition, the SARS-CoV-2 infection rate in pregnant women seems to be higher than similarly aged adults.¹⁰ These findings suggest that pregnancy itself may manifest increased complications and morbidities among women with severe and critical COVID-19 symptoms. Severe maternal illness seems to be more common in the second half of pregnancy, with women beyond 20 weeks of gestation being five times more likely to be admitted to ICU compared with those in the first half of pregnancy.^{10,11} Complications such as preterm birth and need for delivery are also common for women with severe COVID-19 infection.^{12,13}

Pregnant Black, Asian and Hispanic women were noted to have disproportionately higher rates of COVID-19 infection, ICU admission and death.⁴ These disparities, like those observed among the general population, are due to disparities in socioeconomic status, rates of comorbidities, access to care, occupational exposure, and inequities in health care systems.

To reduce the risk of severe illness and death from COVID-19, pregnant women should be counselled about the importance of seeking medical care early once they develop symptoms such as fever, fatigue, dyspnoea and gastrointestinal complaints.⁸ Measures to prevent SARS-CoV-2 infection should be repeatedly emphasised for pregnant women and their families during all

prenatal care visits. Importantly, as newer mutant COVID-19 viruses emerge, it is expected that disease severity will become more frequent. Therefore, preventive measures and decreasing risk factor are imperative.

Vertical transmission of COVID-19

Until now, most global cases of COVID-19 have evidence of human-to-human transmission. The virus can be readily isolated from respiratory droplets or secretions, faeces and surface objects. Transmission of the virus is known to occur most often through close contact with an infected person or from contaminated surfaces. Perinatal infection rate is estimated to be ~2.5% and mostly occurs in women who contracted the virus within a week prior to delivery.¹⁴

Evidence now suggests that if vertical transmission does occur, it is uncommon.¹⁵ However, placental samples and neonatal IgM immunoglobulin are rarely tested. Thus, if infection does occur, it appears to not be affected by mode of birth, method of feeding or whether the woman is rooming-in.^{16,17} However, irrespective of whether the infection is acquired prenatally or occurs shortly post-delivery, those neonates need to be followed closely in the long term for any developing delayed symptoms.

Breastfeeding with acute COVID-19 illness

The question of whether women with COVID-19 infection at the time of delivery should breastfeed or not is an example of the challenges that FIGO faces in providing guidance in the absence of adequate evidence to inform risk.

What FIGO is certain about is that breast milk is the best source of nutrition for most infants and it provides protection against many illnesses including infections of the ears, lungs and digestive system. Breastfeeding is also associated with decreased risks of childhood obesity, as well as specific autoimmune diseases, allergic conditions, childhood cancers and sudden infant death syndrome.¹⁸ In addition, it saves lives, as the risk of mortality is 14-fold higher in infants who are not breastfed compared with those who are exclusively breast.¹⁹

On the other hand, several reports have now documented the presence of virus in breast milk by detecting viral RNA by polymerase chain reaction.^{20,21} Whether this translates to viable virus or degraded residual nucleic acid cannot not be ascertained, since no efforts have been made to grow the virus in cell culture. At present, therefore, data are not sufficient to conclude vertical transmission of COVID-19 through breastfeeding.

For those reasons, the proven short- and long-term benefits of breastfeeding should outweigh the potential risks of transmission, especially given that COVID-19 in infants seems to represent a much lower threat to survival and health than other infections that breastfeeding is protective against. Those benefits should be the primary consideration in counselling patients until there is clear evidence that breast milk is a source of SARS-CoV-2 infection, and that acquiring infection via breast milk harms the infant.

Based on the available evidence, FIGO, along with almost all scientific bodies and organisations, continues to recommend that mothers with suspected or confirmed COVID-19 should be encouraged to initiate or continue to breastfeed.^{16,22–25}

Adherence to infection prevention and control measures is particularly important to prevent contact transmission between COVID-19 mothers and their newborns. The mother should:

- wash her hands with soap and water or a hand sanitiser with at least 60% alcohol for at least 20 seconds before touching the baby, breast pump or bottles, if she chooses to feed expressed breast milk using a bottle
- try to avoid coughing or sneezing on the baby while feeding at the breast or from a bottle
- wear a mask while feeding or breast pumping
- follow recommendations for cleaning the pump or bottle after each use
- consider asking someone who is healthy to feed the expressed breast milk to the baby.

Research should try to answer two important questions to better understand the risks and benefits of breast feeding during maternal SARS-CoV-2 infection. First, to determine whether infectious live virus is present in breast milk and the timing of viral shedding in milk in relation to the course of maternal infection if this proves true. Second, studies should determine whether breastfeeding leads to the development of immunoglobulin G and/or immunoglobulin A antibodies and whether such antibodies against SARS-CoV-2 would protect the infant from further maternal infection and/or from community sources of infection throughout infancy.

Considerations for neonatal care for women with acute COVID-19 illness

Initial guidance took the conservative stance of recommending that infected mothers be temporarily separated from their newborns. This was at a time when it was apparent that SARS-CoV-2 was very contagious and infected individuals could suffer severe morbidity and mortality.

Skin-to-skin contact and kangaroo mother care have well-established benefits on the neonate, including facilitating breastfeeding and improving thermoregulation, blood glucose control and maternal-infant attachment, as well as decreasing the risk of mortality and severe infection among low-birth-weight infants.²⁶ Mother–infant holding has positive effects that extend beyond the neonatal period and include improved sleep patterns, lower rates of behavioural problems in the child and higher quality parental interaction.^{27,28}

Maintaining this early and close contact between the mother and neonate through keeping the newborn in the hospital in the mother's room, referred to as 'rooming-in,' carries a potential risk of SARS-CoV-2 transmission to the neonate via contact with infectious respiratory secretions from the mother. The implications of viral transmission need to be framed in terms of the scope and severity of COVID-19 infection in infants when transmission occurs, versus the adverse consequences of separation of newborns from mothers. In infants, the risk of COVID-19 infection is low and the infection is typically mild or asymptomatic, while the consequences of separation between mother and child can be significant. Furthermore, data suggests that there is no difference in risk of SARS-CoV-2 infection to the neonate whether a neonate is cared for in a separate room or remains in the mother's room.

Based on this, the confirmed or suspected COVID-19 mother and her infant should be enabled to stay together while rooming-in throughout the day and night and to practice skin-to-skin contact, including kangaroo mother care, especially directly after birth and during establishment of breastfeeding. This should be done after the potential risk of transmission during rooming-in is discussed between health care provider and the mother.

Women should be made aware that if they choose to have their infant cared for in a separate room, it is unclear whether this temporary separation while in the hospital would ultimately prevent SARS-CoV-2 transmission to the neonate, given the potential for exposure from the mother after being discharged from the hospital. For women who decide to room-in, universal precautions should always be practiced including wearing a mask and observing hand hygiene during all contact with their neonates.

Separation may be necessary for mothers who are too ill to care for their infants or who need higher levels of care or for neonates at higher risk for severe illness (e.g. preterm infants and those requiring greater levels of care).

FIGO commitments

- All obstetricians should stay up to date as the situation with COVID-19 continues to unfold. We all have obligations as individuals towards our patients, who deserve no less than our full commitment during these challenging times.
- When more research data is available, FIGO will review this statement and any recommendations we have provided to ensure they are clear and accurate.

References

1. Available at: www.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6
2. Breslin N, Baptiste C, Gyamfi-Bannerman C, et al. Coronavirus disease 2019, infection among asymptomatic and symptomatic pregnant women: two weeks of confirmed presentations to an affiliated pair of New York City hospitals. *Am J Obstet Gynecol* MFM 2020;2(2):100118
3. Wu Z, McGoogan JM. Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: Summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. *JAMA* 2020 Apr 7;323(13):1239-1242
4. Zambrano LD, Ellington S, Strid P, et al. Update: characteristics of symptomatic women of reproductive age with laboratory-confirmed SARS-CoV-2 infection by pregnancy status - United States, January 22-October 3, 2020. CDC COVID-19 Response Pregnancy and Infant Linked Outcomes Team. *MMWR Morb Mortal Wkly Rep* 2020;69:1641-7
5. Delahoy MJ, Whitaker M, O'Halloran A, et al. Characteristics and maternal and birth outcomes of hospitalized pregnant women with laboratory-confirmed COVID-19 - COVID-NET, 13 states, March 1-August 22, 2020. COVID-NET Surveillance Team. *MMWR Morb Mortal Wkly Rep* 2020;69:1347-54
6. Panagiotakopoulos L, Myers TR, Gee J, et al. SARS-CoV-2 infection among hospitalized pregnant women: reasons for admission and pregnancy characteristics - eight U.S. health care centers, March 1-May 30, 2020. *MMWR Morb Mortal Wkly Rep* 2020;69:1355-9
7. Allotey J, Stallings E, Bonet M, et al. Clinical manifestations, risk factors, and maternal and perinatal outcomes of coronavirus disease 2019 in pregnancy: living systematic review and meta-analysis. *BMJ* 2020;370:m3320
8. Woodworth KR, Ellington S, Strid P, et al. Update: Characteristics of Symptomatic Women of Reproductive Age with Laboratory-Confirmed SARS-CoV-2 Infection by Pregnancy Status - United States, January 22-October 3, 2020. *MMWR Morb Mortal Wkly Rep* 2020 Nov 6;69(44):1641-1647
9. Knight M, Bunch K, Vousden N, et al. Obstetric Surveillance System SARS-CoV-2 Infection in Pregnancy Collaborative Group. Characteristics and outcomes of pregnant women admitted to hospital with confirmed SARS-CoV-2 infection in UK: national population based cohort study. *BMJ* 2020 Jun 8;369:m2107

10. Lokken EM, Taylor GG, Huebner EM, et al. Higher SARS-CoV-2 infection rate in pregnant patients. *Am J Obstet Gynecol* 2021 Feb 11;S0002-9378(21)00098-3
11. Badr DA, Mattern J, Carlin A, et al. Are clinical outcomes worse for pregnant women at ≥ 20 weeks' gestation infected with coronavirus disease 2019? A multicenter case-control study with propensity score matching. *Am J Obstet Gynecol* 2020;223(5):764-768
12. Della Gatta AN, Rizzo R, Pilu G, Simonazzi G. Coronavirus disease 2019 during pregnancy: a systematic review of reported cases. *Am J Obstet Gynecol* 2020;223(1):36-41
13. DeBolt CA, Bianco A, Limaye MA, et al. Pregnant women with severe or critical coronavirus disease 2019 have increased composite morbidity compared with nonpregnant matched controls. *Am J Obstet Gynecol* 2020;S0002-9378(20)31312-0
14. Woodworth KR, Olsen EO, Neelam V, et al. Centers for Disease Control and Prevention. Birth and infant outcomes following laboratory-confirmed SARS-COV2 Infection in pregnancy – SET-NET, 16 Jurisdictions. March 29-October 14, 2020 MMWR Morb Mortal Wkly Rep 2020 Nov 6;69(44):1635-1640
15. Walker KF, O'Donoghue K, Grace N, et al. Maternal transmission of SARS-COV-2 to the neonate, and possible routes for such transmission: a systematic review and critical analysis. *BJOG* 2020;127(11):1324-36
16. Royal College of Obstetricians and Gynaecologists. Coronavirus (COVID-19) Infection in Pregnancy. Version 13: Published Wednesday 19 February 2021.
www.rcog.org.uk/globalassets/documents/guidelines/2021-02-19-coronavirus-covid-19-infection-in-pregnancy-v13.pdf
17. Salvatore CM, Han JY, Acker KP, et al. Neonatal management and outcomes during the COVID-19 pandemic: an observation cohort study. *Lancet Child Adolesc Health* 2020; 4(10):721-27
18. Greer FR, Sicherer SH, Burks AW. The effects of early nutritional interventions on the development of atopic disease in infants and children: the role of maternal dietary restriction, breastfeeding, hydrolyzed formulas, and timing of introduction of allergenic complementary foods. *Pediatrics* 2019; 143:e20190281
19. Sankar MJ, Sinha B, Chowdhury R, et al. Optimal breastfeeding practices and infant and child mortality: a systematic review and meta-analysis. *Acta Paediatrica* 2015;104:3–13
20. Wu Y, Liu C, Dong L, et al. Coronavirus disease 2019 among pregnant Chinese women: case series data on the safety of vaginal birth and breastfeeding. *BJOG* 2020; 5:1471–528
21. Groß R, Conzelmann C, Müller JA, et al. Detection of SARS-CoV-2 in human breastmilk. *Lancet* 2020; 21:31181–8
22. World Health Organization. Breastfeeding and COVID-19. www.who.int/news-room/commentaries/detail/breastfeeding-and-covid-19#:~:text=WHO%20recommends%20that%20mothers%20with,confirmed%20COVID%2D19
23. Centers for Disease Control and Prevention. Evaluation and management considerations for neonates at risk for COVID-19. www.cdc.gov/coronavirus/2019-ncov/hcp/caring-for-newborns.html#routes-transmission
24. Management of Infants Born to Mothers with Suspected or Confirmed COVID-19. <https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/faqs-management-of-infants-born-to-covid-19-mothers>
25. American College of Obstetricians and Gynecologists. Coronavirus (COVID-19), Pregnancy, and Breastfeeding: A Message for Patients. www.acog.org/womens-health/faqs/coronavirus-covid-19-pregnancy-and-breastfeeding
26. Moore ER, Bergman N, Anderson GC, et al. Early skin-to-skin contact for mothers and their healthy newborn infants. *Cochrane Database Syst Rev* 2016;11(11):CD003519
27. Korja R, Latva R, Lehtonen L. The effects of preterm birth on mother-infant interaction and attachment during the infant's first two years. *Acta Obstet Gynecol Scand* 2012;91(2):164-73
28. Howard K, Martin A, Berlin LJ, et al. Early mother-child separation, parenting, and child well-being in Early Head Start families. *Attach Hum Dev* 2011;13(1):5-26

About FIGO

FIGO is a professional organisation that brings together obstetrical and gynaecological associations from all over the world. FIGO's vision is that women of the world achieve the highest possible standards of physical, mental, reproductive and sexual health and wellbeing throughout their lives. We lead on global programme activities, with a particular focus on sub-Saharan Africa and South East Asia.

FIGO advocates on a global stage, especially in relation to the Sustainable Development Goals (SDGs) pertaining to reproductive, maternal, newborn, child and adolescent health and non-communicable diseases (SDG3). We also work to raise the status of women and enable their active participation to achieve their reproductive and sexual rights, including addressing female-genital mutilation (FGM) and gender-based violence (SDG5).

We also provide education and training for our Member Societies and build capacities of those from low-resource countries through strengthening leadership, good practice and promotion of policy dialogues.

FIGO is in official relations with the World Health Organization (WHO) and a consultative status with the United Nations (UN).

For enquiries Rob Hucker, Head of Communications and Engagement
rob@figo.org +44 (0) 7383 025 731