

## Pregnancy during the pandemic: Evolving Covid-19 and adaptations to obstetric care

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**P**regnant individuals infected with Covid-19 are commonly asymptomatic or mildly symptomatic. Infection during the first trimester is not associated with increased early pregnancy loss. However, pregnant people with Covid-19 are more likely to require admission to the intensive care unit, ventilation, extracorporeal membrane oxygenation, and are 70% more likely to die than nonpregnant people with Covid-19. Those who are older, with comorbidities including elevated body mass index, or Black and Latinx have been disproportionately affected.<sup>1-3</sup> Severe infection is associated with adverse outcomes including preterm delivery, preeclampsia, cesarean delivery, and perinatal death. Long-term consequences of Covid-19 are unknown and will require rigorous study.<sup>2,4,5</sup>

Pregnant people and those contemplating pregnancy have endured uncertainty and numerous modifications in how care is provided during the pandemic. Initial recommendations were inconsistent and varied, causing many to experience significant distress.<sup>6</sup> Optimism

around the waning of the Omicron BA.1 subvariant surge, changing mask mandates, and still persistent uncertainty are part of the current landscape. The recent appearance of the Omicron BA.2 subvariant demonstrates that emerging research and the virus' evolution will require continued adaptations.

### Screening

The emphasis on the importance of staying home when sick or after exposure to someone with Covid-19 must be modified for pregnant people requiring routine obstetric care. Healthcare institutions have implemented symptom and exposure screening for in-person visits, limited visitors, and modified prenatal schedules to reduce the risks for infection transmission. Positive screening responses should trigger further assessment.<sup>7</sup>

Consideration of routine testing to identify asymptomatic individuals is guided by community positivity and vaccination rates. There is value in identifying asymptomatic pregnant people, regardless of vaccination status, as they are more vulnerable.<sup>7</sup> Covid-19 testing of asymptomatic patients on admission to labor and delivery is variable within different facilities. A plan for the care of those who decline such testing should be in place.<sup>8</sup>

### Vaccination

Covid-19 vaccine hesitancy among people of reproductive age is impacted by claims that the vaccine has not been adequately tested, can negatively affect fertility and pregnancy, and is not safe while breastfeeding.<sup>9,10</sup> Providers must provide up-to-date and consistent evidence-based information to address these anxieties and fears. Data from the Centers for Disease Control and Prevention (CDC) pregnancy registry are reassuring, demonstrating similar vaccine reactions among pregnant and nonpregnant people. Adverse pregnancy outcomes of those vaccinated are comparable to background rates.<sup>9-11</sup> Immunization during pregnancy seems to enhance transplacental antibody transfer resulting in increased neonatal antibody levels.<sup>12</sup> Antibodies are found in the breast milk of vaccinated individuals, potentially providing a protective effect. Covid-19 vaccination is safe prior to and during pregnancy and while breastfeeding.

All people presenting for prepregnancy, prenatal, and postpartum care should be encouraged to obtain full Covid-19 vaccination despite prior symptomatic or asymptomatic infection.<sup>8-11</sup> Covid-19 vaccination can be given simultaneously with other vaccinations including influenza and Tdap. The risks of not getting vaccinated should be discussed. Preference is given to the Pfizer



and Moderna mRNA vaccines.<sup>8</sup> Full vaccination includes the receipt of a mRNA booster (either brand) 5 months after completing the mRNA vaccine series or 2 months after receiving the Jansen/J&J vaccine. Recently, a second booster shot has been recommended at least 4 months after an initial booster for immunocompromised persons and/or those age 50 years and older.<sup>13</sup> Documentation of declination of vaccination and discussion on the value of vaccination at subsequent visits is recommended.<sup>8</sup> Strategies targeted at reducing vaccine hesitancy should be implemented.

### **Prenatal and postpartum care**

The pandemic altered healthcare delivery and the effect on pregnant and postpartum people cannot be understated. Specific local, state, and national recommendations have been lacking or inconsistent.<sup>6</sup> Modified schedules limiting in-person appointments, often relying on telehealth, created inequities in care delivery.<sup>3,14</sup> Strategies adopted by hospitals to reduce transmission, including limiting support persons and visitors, and expedited discharges were restrictive and isolating.<sup>2</sup> Adaptations were often inflexible, limited patient advocacy, and led to inadequate communication with non-English speakers disproportionately affecting people of color.<sup>7</sup>

Psychosocial burdens introduced by the pandemic have negatively affected maternal mental health. Unpredictable, inconsistent, and often significant changes in standard obstetric care caused elevated levels of stress. Pregnant individuals have experienced anxiety and depression associated with potential transmission of Covid-19 to their fetus or newborn, lack of social support, and social isolation regardless of infection. Reports of intimate partner violence (IPV) increased during the pandemic. There is a new urgency for mental health and IPV screening.<sup>2,8</sup>

### **Testing/diagnosis**

Pregnant people with symptoms and high-risk exposures look to their healthcare providers for guidance regarding testing for Covid-19. Testing availability has fluctuated. The variation in clinical setting regulations and community vaccinations rates and evolving public health policies and responses have complicated decision making about when to do Covid-19 testing. The CDC remains the source for the most up-to-date guidance.<sup>15</sup>

Symptomatic people and those who have been in close contact with someone who has Covid-19 should get tested. The CDC's Coronavirus Self-Checker is an interactive multilanguage tool that can be used to guide

testing and care recommendations. Those with a close contact should test 5 days after that contact. Individuals with symptoms should be triaged via telehealth and anyone who tests positive must be assessed to determine if specific therapies and in-person care are needed. Those with dyspnea should be referred for in-person evaluation and followed closely for worsening respiratory status.<sup>14,16</sup>

Rapid point-of-care tests, including home tests, screen for current infection. These tests may be less reliable when individuals are asymptomatic requiring follow-up testing. Polymerase chain reaction is more reliable, but results may take 1 to 3 days, and may be positive for months after primary infection. The presence of antibodies indicates past infection. Serum antibody testing should not be used to diagnose current infection.<sup>7,17</sup>

### **Pharmacologic/nonpharmacologic treatment**

The lack of safety and efficacy data in pregnancy has led to slow adoption of available treatment modalities. Management is based on vital signs, physical exam, and risk factors for progression to severe illness. Flu-like symptoms such as fever, cough, myalgias, and anosmia without dyspnea, shortness of breath, or abnormal chest imaging encompass mild disease.<sup>18</sup> Treatment in these cases includes over-the-counter medications such as antipyretics, analgesics, and antitussives that are safe in pregnancy, breathing exercises to promote recovery, increased hydration, and rest during the acute phase. There is individual variability from symptom resolution to complete recovery.<sup>14</sup>

Monoclonal antibodies (mAbs), approved under emergency use authorization (EUA), are used to treat outpatients with mild-to-moderate symptoms at high risk of clinical progression and should be made available to pregnant people. Treatment should not be withheld because of theoretical safety concerns.<sup>19</sup> Pregnancy is a risk factor for severe infection.<sup>20</sup> Treatment should be started as soon as possible after infection is confirmed and within 10 days of symptom onset.<sup>20</sup> When the Omicron variant first surged, its high transmissibility coupled with poor response to existing and available mAbs, impacted the utility of this treatment. In February 2022, a new mAb that retains activity against the Omicron variant was approved under EUA.<sup>21</sup>

A protease inhibitor recently approved under EUA also is available to treat outpatients with mild-to-moderate symptoms at high risk of clinical progression. Pregnant people can receive treatment with this oral protease inhibitor, a combination of nirmatrelvir and ritonavir tab-

lets. Treatment should be initiated as soon as possible after diagnosis and within 5 days of symptom onset and is continued for a total of 5 days. Obstetric providers should engage in shared decision making, balancing the risks associated with short-term exposure to this medication against the risks associated with untreated Covid-19.<sup>8</sup>

Therapeutic decision making for outpatient treatment must consider a community's prominent Covid-19 variant(s) as well as the availability and accessibility of effective treatments. Monoclonal antibody treatment is more costly, requiring a robust infrastructure that can administer the infusion in a monitored setting. Oral therapies are less expensive and may be easier to access, but the potential drug interactions must be considered.<sup>22</sup>

Anticoagulation for venous thromboembolism (VTE) prophylaxis post Covid-19 infection remains controversial. Individual risk factors for VTE including obesity and pregnancy must be factored.<sup>18</sup> Additionally, use of dexamethasone in those who do not require supplemental oxygen is not recommended. If community-acquired pneumonia coinfection is suspected, antibiotic use is reasonable.<sup>18</sup>

The exclusion of pregnant people from clinical trials has significantly contributed to provider and public lack of confidence in the use of available treatments.<sup>18</sup> Continued safety and efficacy data are needed, but supporting equitable access to these treatments for pregnant and breastfeeding people and for communities most affected is our responsibility.<sup>8</sup>

## Isolation and quarantine

Recently the CDC adjusted quarantine recommendations considering vaccine uptake and societal and mental health impacts. Current quarantine recommendations are based on vaccine status, symptomatology, and recent infection. Individuals with symptoms or a positive test regardless of vaccination status must isolate for 5 days. Isolation ends after 5 days if fever-free for 24 hours without antipyretic medications.<sup>23</sup>

Throughout the pandemic, the World Health Organization has strongly recommended that women continue to breastfeed.<sup>2</sup> Fortunately, evidence supports that breastmilk is not likely to spread Covid-19. Current CDC guidance includes handwashing and masking while breastfeeding for infected people or pumping and having a healthy caregiver feed expressed breastmilk. Lactation support remains imperative as breastfeeding problems are often urgent. Telehealth can be effective for this purpose. In-person support is subject to symptom and exposure screening protocols. If in-person support is necessary, proper personal protective equipment and

## Box. Resources

American College of Obstetricians and Gynecologists. FAQs. COVID-19, pregnancy, childbirth, and breastfeeding: answers from ob-gyns<sup>A</sup>

Centers for Disease Control and Prevention. Toolkit for pregnant people and new parents<sup>B</sup>

Centers for Disease Control and Prevention. COVID-19. Quarantine and isolation [calculator]<sup>C</sup>

Centers for Disease Control and Prevention. COVID-19. Coronavirus self-checker<sup>D</sup>

physical distancing practices must be utilized.<sup>24</sup>

Covid-positive parents caring for newborns are encouraged to have a healthy caregiver up to date with their Covid-19 vaccination care for the infant until the isolation period ends. If a healthy caregiver is not available, parents who are Covid positive should practice handwashing/sanitizing, wearing a well-fitted mask within 6 feet of their newborn, and should monitor their infant for symptoms.

## Conclusion

As trusted members of the healthcare team, nurse practitioners are well suited to engage people in their care, expertly refute health misinformation, and enable patients to participate in shared decision making. Nurse practitioners equipped with the most current and evidence-based Covid-19 recommendations for pregnant and postpartum people can positively impact this evolving pandemic on many levels. Frank and thoughtful discussions about Covid-19 vaccinations, improving mental health and IPV screening, and advocating for access and improved representation for pregnant and postpartum people during this unprecedented time remain imperative. ■

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#### Web resources

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- B. [cdc.gov/coronavirus/2019-ncov/communication/toolkits/pregnant-people-and-new-parents.html](https://www.cdc.gov/coronavirus/2019-ncov/communication/toolkits/pregnant-people-and-new-parents.html)
- C. [cdc.gov/coronavirus/2019-ncov/your-health/quarantine-isolation.html](https://www.cdc.gov/coronavirus/2019-ncov/your-health/quarantine-isolation.html)
- D. [cdc.gov/coronavirus/2019-ncov/symptoms-testing/coronavirus-self-checker.html](https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/coronavirus-self-checker.html)