Research Update from Monday, May 4, 2020

Numbers Update from Johns Hopkins University

As of 9 AM EDT on May 4, 2020, there are more than 3.5 million confirmed cases of COVID-19 around the world. The highest number of cases is in the U.S. (1.16 million), followed by Spain, Italy, the United Kingdom, France, Germany, Russia, Turkey, Brazil, and Iran.
Another new resource at Johns Hopkins University is a map that shows the number of cases and deaths per county in the U.S.

Summary of guidelines published online in the American Journal of Perinatology (April 28, 2020)

- This article by Stephens et al. discusses how hospitals can adapt during the COVID-19 pandemic. The authors' suggestions include:
    - Screen all pregnant people and visitors for symptoms on admission.
    - No visitors should be allowed for persons under investigation (PUI) or pregnant people who test positive; consider allowing one visitor for everyone else.
        - Note from EBB: This recommendation to deny a support person to laboring mothers who have COVID-19 is controversial and, as we will discuss, contrary to new recommendations coming from New York State. On a personal note, I had the honor of listening to the story of a mother in New York City who had COVID-19 and was not allowed any support person to stay with her. She described being left alone by staff for the vast majority of her high-risk labor and postpartum stay, causing significant safety concerns.
    - Isolate pregnant people with symptoms and use negative pressure rooms for those with positive test results.
    - When caring for people with confirmed or suspected COVID-19, limit staff to only those necessary and use appropriate PPE.

- All birthing people and visitors should be encouraged to wear surgical masks at all times.
- Infection with SARS-CoV-2 is not a medical indication for Cesarean.
- Scheduled Cesareans and medically indicated inductions should not be delayed because of the pandemic.
- Consider delaying elective inductions at 39 weeks with a poor Bishop's score (because the ARRIVE trial found longer labors with elective induction, which increases exposure time for laboring people and staff).
- Staff should limit frequency and duration of room visits, reduce the number of cervical exams, and use ultrasound assessment only when necessary to guide clinical management.
- The guidance cautions against longer second stages of labor during the pandemic, since forceful exhales during pushing could put staff at increased risk of exposure if the mother happens to be infected. They propose several policy changes that apply to pregnant people who may or may not be infected:
    - Do not encourage active pushing (instead, encourage mothers to "labor down" and push if there is a strong urge to push).
    - They say "it may be prudent to resume previous recommendations of a 1-hour second stage in a multiparous patient without an epidural (2 hours with an epidural) and a 2-hour second stage in a nulliparous patient without an epidural (3 hours with an epidural)."
    - Note from EBB: They are suggesting that health care providers should give mothers about one less hour to push before diagnosing labor arrest in the second stage. Tightening time limits on pushing could increase the mother's risk of a preventable Cesarean. Recommendations for the Safe Prevention of the Primary Cesarean call for allowing at least 2 hours of pushing for experienced mothers and at least 3 hours of pushing for first-time mothers, with even longer pushing stages recommended for people with epidurals.
    - The new guidance in the American Journal of Perinatology also recommends that care providers consider shortening the second stage with an operative vaginal birth (vacuum or forceps) for people with "a fully dilated cervix, fetal head engagement, low fetal station, adequate clinical pelvimetry, and patient consent."
- They recommend early cord clamping "given the potential increased risk of viral transmission to the newborn." This recommendation is based on opinion, however, not evidence.

        - Note from EBB: Professional guidelines such as the American College of Obstetricians and Gynecologists (ACOG) in the U.S. and the Royal College of Obstetricians and Gynecologists (RCOG) in the U.K. disagree. They say delayed cord clamping is still appropriate, even if the mother has suspected or confirmed COVID-19. So far, cord blood samples have all tested negative for the virus. Multiple randomized trials have shown that early or immediate cord clamping causes harm to the infant by decreasing iron stores in infancy.
    - Use IV fluids cautiously because aggressive hydration can worsen oxygenation status (potentially harming mothers with COVID-19)
    - Reconsider the use of antenatal corticosteroids after 34 weeks of pregnancy, since steroid administration may worsen COVID-19 infection. Also be cautious with magnesium sulfate use since respiratory depression is a potential side effect.

Summary of recommendations from the New York State COVID-19 Maternity Task Force (April 29, 2020)

- A multi-disciplinary group of maternal and infant health professionals from across New York State formed the COVID-19 Maternity Task Force. The task force was charged with examining the best approach to provide pregnant people increased choice and access to safe maternity care during the COVID-19 pandemic.
- **On April 29, Governor Andrew Cuomo accepted the task force's initial six recommendations in full:**
    - **Recommendation #1: Diversify Birthing Site Options to Support Patient Choice**
        - Issue an Executive Order to immediately establish "birthing surge sites" operated by licensed hospitals and birth centers.
        - Streamline the process to accept applications from community health centers and federally qualified health centers to convert unused space to dedicated labor and birth rooms during the emergency.
        - To increase access to midwifery services, the task force recommends New York State Department of Health expedite, within the next 45 days, the licensure process to establish midwifery led birthing centers in New York State.
        - The task force stated, "Approved birthing centers can provide New Yorkers with low-risk pregnancies an alternative and safe birthing option and may relieve the strain on hospitals during this state of emergency. Even prior to COVID-19, black

women in particular voiced a desire to expand birthing options."

- **Recommendation #2: Support Persons**
  - Authorize **at least one support person** to accompany a pregnant individual for the duration of their stay in any hospital, birthing facility, or postpartum unit, as medically appropriate.
  - Clarify that **doulas are considered an essential part of the support care team** and should be allowed to accompany a pregnant individual during labor and delivery as an additional support person, as medically appropriate.
- **Recommendation #3: Universal Testing of Pregnant Patients**
  - The task force recommends universal COVID-19 testing for all pregnant individuals and for all support persons accompanying pregnant individuals at birthing facilities, as testing becomes available.
- **Recommendation #4: Ensuring Equity**
  - Include community members in work groups charged with developing standards, policies, and/or regulations related to birthing options.
- **Recommendation #5: Messaging and Education**
  - Create and disseminate an educational campaign
- **Recommendation #6: Department of Health Will Collaborate With Academic Institutions, Regional Perinatal Centers, And Medical Organizations To Review The Impact That Covid-19 Has On Pregnancy And Newborns.**

New resource from the World Health Organization (WHO) on Breastfeeding and COVID-19 (April 28, 2020)

- The WHO just released FAQs for health care workers on breastfeeding and COVID-19. The free downloadable PDF, Frequently Asked Questions: Breastfeeding And Covid-19 For Health Care Workers, complements the WHO interim guidance: Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected (March 13).
- The new FAQ resource covers:
  - The evidence on transmission risks of COVID-19 through breastmilk (the virus has not been detected in the breastmilk of any mother with confirmed or suspected COVID-19),
  - The protective effects of breastfeeding and skin-to-skin contact, and,
  - The harmful effects of inappropriate use of infant formula

False-negative results with COVID-19 testing in obstetrical care

An article discussing false-negative COVID-19 tests in obstetrical care was published in AJOG MFM on April 28, online ahead of print (Kelly et al. 2020). Real-time reverse transcriptions-polymerase chain reaction (RT-PCR) of nasopharyngeal (NP) swabs tests are most often used to diagnose COVID-19, but there is limited information about the accuracy of these tests. (We shared research about the accuracy of COVID-19 testing in the April 27 newsletter, which you can access on our COVID-19 resource & pregnancy page here.)

- This article reports on a first-time mother at 33 weeks of pregnancy who became critically ill with symptoms of COVID-19. She tested negative THREE times with NP SARS-CoV-2 PCR tests before finally testing positive with a bronchoalveolar lavage (BAL) test performed after intubation by the ICU team. The mother was in critical condition for 11 days, but at the time of the report, both the mother and her premature baby were in good condition.
- In the non-pregnant population, rates of false negative results are estimated to be 17% to 63% for NP SARS-CoV-2 RT-PCR tests. The authors say that the potentially high rate of false negatives have important implications for pregnant people suspected of having severe COVID-19:
    - Repeating NP SARS-CoV-2 RT-PCR testing may be required as much as 3-5 times to get a positive result.
    - BAL testing appears to be more sensitive than NP swabs, but it is an invasive and aerosolizing procedure. It can be performed after negative NP results if there is high suspicion of COVID-19 and diagnosis is needed.
    - Initially negative test results should not change clinical management.
    - If there is high suspicion of COVID-19, a negative test should not allow for removal of precautions (i.e. take precautions as though the patient tested positive).
    - All NP swab testing should be performed by a specialized team.
    - Universal testing should not be the only strategy used to determine people's risk status.
    - Given the potentially high rate of false negatives, the true rate of COVID-19 in the population is likely underestimated.
- The bottom line seems to be that **if a medical provider suspects someone has COVID-19, they shouldn't trust a negative test result.**

Maternal deaths from COVID-19

- A case report published in AJOG on April 26 described a series of maternal deaths from COVID-19 in Brazil (5 deaths), Iran (2 deaths) and Mexico (2 deaths) (Ramos Amorim et al. 2020).

- Another case series published in AJOG on April 28 included nine pregnant women in Iran diagnosed with severe COVID-19 disease in their late 2nd or 3rd trimester (Hantoushzadeh et al. 2020). At the time of the report, seven of the nine women had died, one woman remained critically ill on a ventilator, and one woman had recovered after a long hospitalization.
- At this time, it is thought that pregnant people are not any more likely than non-pregnant adults to develop severe symptoms or die from COVID-19. However, the authors propose that there could be an increased risk of maternal death from COVID-19 in mid to low resource countries.
- There are media reports of U.S. maternal deaths related to COVID-19 in recent weeks that have not yet been described in the research evidence.
    - Andrea Circle Bear, a 30-year old woman of the Cheyenne River Sioux tribe, died from COVID-19 while in federal custody in the United States. Andrea was pregnant and began experiencing symptoms of COVID-19 in late March. Her family reported that Andrea's complaints were ignored by authorities and her treatment was delayed. The baby survived an emergency pre-term Cesarean on April 1 while Andrea was on a ventilator, and the baby later tested negative. Andrea died on April 28. Advocates are outraged over how authorities are managing the vulnerable prison population during the COVID-19 pandemic.
    - Another maternal death was reported in New York City. Amber Rose Isaac, a 26-year-old first-time Black mother, tweeted about her negative experience with her doctors and hospital. Later that same day, she died of HELLP syndrome. Although Amber did not have COVID-19, her family stated she was not given sufficient in-person prenatal care during the last 6 weeks of her high-risk pregnancy. Advocates warn that the COVID-19 pandemic will worsen the already crisis-level disparately high maternal death rates among Black mothers in the U.S.

Second trimester miscarriage to a mother with SARS-CoV-2 infection

- Researchers published a case report of a 28-year-old pregnant woman in Switzerland who gave birth to a stillborn infant at 19 weeks of pregnancy after testing positive for COVID-19 (Baud et al. 2020):
    - The mother experienced fever, fatigue, mild pain with swallowing, diarrhea, and dry cough for two days before seeking medical attention. Her nasopharyngeal swab test was positive. She was given acetaminophen and discharged home. Two days later, she experienced severe contractions and her symptoms worsened. Her contractions continued and she gave birth to a stillborn infant after 10 hours of labor.

- All of the swabs from the infant tested negative for SARS-CoV-2, as well as swabs of vaginal fluid, maternal blood, and urine.
- However, samples from the placenta tested positive for the virus. The authors point out that with MERS and SARS (both coronaviruses), infection of the maternal side of the placenta caused acute or chronic placental insufficiency resulting in miscarriage or fetal growth restriction in 40% of maternal infections. More research is needed before we know if maternal infection with SARS-CoV-2 causes similar outcomes. This case report is not evidence that the virus can pass from the mother to the fetus during pregnancy (vertical transmission).

Q and A Section

Question: I'm concerned about catching the virus from hospital staff. Do we know what percentage of health care workers (HCWs) have COVID-19?
Answer: Someone's risk of exposure to the SARS-CoV-2 virus in the hospital setting depends on many factors including: where the hospital is located, length of hospital stay, frequency and types of interaction with hospital staff, and availability of appropriate personal protective equipment for staff and patients.
If the hospital is in a geographic region with a low rate of infection in the population, then the risk is much lower than if the hospital were in a hot spot such as New York City, for example. Likewise, HCWs in New York City hospitals are at greater risk of getting the infection from a laboring patient compared to HCWs in an area with lower prevalence of COVID-19 in the population.
We haven't seen any evidence on the percentage of infected HCWs at the hospital level in the U.S., only at the national and statewide level.
At the national level, the Centers for Disease Control and Prevention released data on health care workers with COVID-19 in the U.S. (CDC COVID-19 Response Team, April 17, 2020). During February 12 to April 9, 315,531 COVID-19 cases were reported to CDC. But only 49,370 (16%) of those cases reported whether or not the infected person was a health care worker. Altogether, 9,282 (3%) of the COVID-19 cases were identified as health care workers. However, among states with more complete reporting of HCW status, HCW accounted for 11% of reported cases. So, about 1 in 10 COVID-19 cases in the U.S. may be a health care worker. That number is higher is some states—in Ohio, one in five positive tests has been a HCW.
This does not mean that 1 in 10 HCWs has the virus, only that 1 in 10 positive test results came from a HCW.
If you are concerned about catching the virus during your hospital stay, it would be prudent for you and your support person to wear a mask whenever a staff

member is in your room (whenever possible; knowing that sometimes it's impossible to keep a mask on at all times during labor), to practice vigilant hand hygiene yourselves, and to ensure that any health care worker who enters your room and/or touches you or your infant has practiced hand hygiene and is wearing a mask and other personal protective equipment as appropriate (they will most likely already be doing this, but it's your right to advocate that the safety rules are followed).

Question: Should doulas wear PPE when they support laboring clients in the home setting?

Answer: The general recommendation from the CDC is that you should be social distancing when possible, or staying at least 6 feet from people outside your household. So, if doulas are meeting with their clients in person, they should allow for some extra space during their meeting. Many doulas inform us that they are doing all interviews and prenatal visits via video-chat to avoid unnecessary social contact (as a way of protecting their families and current clients).

If supporting clients in labor at home, doulas should be using hand hygiene according to CDC guidelines and covering their mouth and nose with a medical mask or cloth face covering. We presented the evidence on cloth face coverings in our April 6 newsletter, which you can access on our COVID-19 resource & pregnancy page **here**.) Some doulas are reporting to us that they are using social distancing measures when they support a client in labor at home; wearing a mask while also staying 6 feet apart.

DONA® International has a toolkit on Doulas & COVID-19, that includes a section on PPE for doulas. You can access that toolkit here.

This concludes the research update for April 27, 2020. I hope you found it helpful!

Sincerely,

Rebecca

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References

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