

BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

Covid-19 and pregnant women—to vaccinate or not to vaccinate?

As is the case with many medicines, the question of covid-19 vaccine safety for pregnant women is now coming to the forefront as vaccines are starting to receive emergency authorization from the Food and Drug Administration.

Should pregnant people vaccinate? It is a complicated question, but fortunately the new vaccine technology being utilized by Pfizer/BioNTech and Moderna may offer specific benefits for such women. Of course, the underlying context to this question is our knowledge that pregnant women have [fared worse](#) with covid-19. This fact must be taken into account.

The race for vaccine distribution is now on. The Pfizer/BioNTech vaccine has already received Emergency Use Authorization (EUA) and Moderna's candidate is likely not far behind. Unfortunately, neither trial (which included 30,000 participants in each) was designed or intended to be conducted with pregnant women. Such exclusions are standard practice for obviously reasons. However, in the Pfizer trial, 12 participants who received the vaccine *became* pregnant between the first and second doses. So far, no adverse events have been reported. Incidentally, two of the 11 women in the *placebo* arm who became pregnant had miscarriages. However, the follow-up time is still too short to determine outcomes of the pregnancies or the fetuses themselves. This will be watched closely in the coming months.

Nevertheless, what sets these two vaccines apart is that they use messenger RNA (mRNA), which is a “novel” vaccine approach. While science and medicine have never used this particular method of vaccine delivery before (i.e. there are no vaccines for other diseases that work on the same biological principles), this technology has distinct advantages; they actually mimic how our bodies' own biochemical machinery works. In essence, the mRNA in the vaccine acts as a recipe card of sorts, telling our cells to manufacture a small part of the virus (the spike protein), to which the body then develops its own immune response. By comparison, some of our traditional vaccines are called “live” vaccines, meaning that a weakened version of a virus is injected into a patient to create the immune response. Unfortunately, these vaccines are specifically contraindicated for pregnant patients due to the theoretical risk of infecting the fetus. With mRNA delivery this shouldn't be a problem. That means that the mRNA technology is also a potential breakthrough for a slew of other viruses that pregnant women may want to take in the future, if and when such options become available.

In fact, [The Society of Maternal and Fetal Medicine](#) (SMFM) issued a statement reporting that the risk of the mRNA vaccine appears low. Furthermore, the statement even mentions that the mechanism used in AstraZeneca's vaccine is similar to that of an Ebola vaccine (*not* mRNA, but rather a “viral vector,” as described above), which also has thus far had an, “acceptable safety profile” during pregnancy.

It should also be noted that for lactating women, mRNA is likely too fragile to reach the breastmilk. If any of the resulting protein were to be ingested by a child, it would simply be digested like any other protein. As a result of this, the SMFM recommends individuals be offered the SARS-CoV-2 vaccine and the decision to receive the vaccine should be guided by an individual's risk of contracting covid-19 and other individual factors.

—Lauren Westafer, DO, MPH, MS

POLICY BRIEFING

Fears of influenza and covid-19 coinfection appear to be fading.

In early September, many experts began expressing concern over the possibility of a “[twinfluenza](#),” i.e., patients contracting both the seasonal flu and covid-19, creating a new pool of patients suffering the respiratory complications of two viral illnesses. A “[twindemic](#),” where both coronavirus patients and influenza patients compete for critical care and respiratory management in overloaded hospitals, was feared.

However, in looking at the weekly “[FluView](#)” influenza tracker put out by the Centers for Disease Control and Prevention (CDC), states across the US remain at minimal to low influenza activity so far. Experts are attributing this to a combination of stay-at-home orders, increased influenza vaccination, adherence to social distancing, and mask use.

The same phenomenon was [seen](#) in the Southern Hemisphere during the summer months (which is its typical flu season). If this trend maintains, these data may represent a glimmer of good news amidst a renewed uptick in daily coronavirus infections and deaths. *Various.*

—*Brief19 Policy Team*

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