

## **BRIEF19**

*A daily review of covid-19 research and policy.*

### **RESEARCH BRIEFING**

#### **Preliminary evidence points to safety of covid-19 vaccines in pregnancy.**

While the clinical trials for all of the covid-19 vaccines currently available in the United States excluded certain patient populations, including children and pregnant women, most specialty societies have favored pregnant women getting vaccinated. Until now, there was not minimal clinical data for pregnant women to rely on when making a choice about whether or not to vaccinate. Fortunately, enough pregnant women have now been vaccinated and have reported their vaccination history to a database maintained by the US Centers for Disease Control and Preventino, called the [V-safe Registry](#). So far the results are highly reassuring.

Published yesterday in the [New England Journal of Medicine](#), a new paper analyzed the data from the V-safe registry to assess whether there was a difference in side effects between pregnant and non-pregnant people. Of approximately 35,000 women, this study shows that any differences in local or systemic side effects were not statistically significant. Furthermore, nearly 4,000 pregnancies had detailed records obtained from patients and obstetric providers, 827 of which were completed. Of those completed pregnancies, over 86 percent resulted in live births, while 12.6 percent were miscarriages. This is roughly equal to the expected rate of miscarriage, meaning that coronavirus vaccination during pregnancy did not change the expected rate of miscarriage for pregnant women. The same results hold true for the expected rate of congenital anomalies, stillbirths, and infants with poor growth early in life. While data will continue to be collected, this preliminary evidence suggests that women should feel confident about getting vaccinated during pregnancy. [22 April 2021](#).

—Lauren Westafer, DO

#### **Pregnancy and covid-19. More data show them to be a risky combination.**

Many would-be parents have been hesitant to start family planning in the covid-19 era, and according to a new study published in [JAMA Pediatrics](#), this may be for good reason. It turns out that some anxiety around childbearing with covid-19 is well-founded: women infected with SARS-CoV-2 during pregnancy were found to be 22 times more likely to die than otherwise healthy pregnant women.

The authors of the new study compared pregnant women with and without covid-19 between March and October 2020 in 18 different countries, including the United States. Over 2,000 women were included in the study, of whom approximately one-third of whom were covid-19 positive.

It is increasingly understood that pregnancy carries a higher degree of risk in some parts of the world due to altered physiology during pregnancy, including suppressed immune systems. These changes leave women more vulnerable to a variety of infections, altered inflammatory reactions, and a host of other conditions. In addition to the increased mortality risk, the authors of this new report discovered that covid-19-positive pregnant women were more likely to suffer from other complications of pregnancy, including preeclampsia and eclampsia--a condition characterized by high blood pressures which can be a harbinger of seizures, and which can require intensive care and longer hospital stays. These conditions also impart a higher risk of preterm birth. These complications were much more likely to affect mothers who were actively symptomatic with covid-19.

It is clear that covid-19 is not benign for pregnant women. In light of these new data, when comparing the risks of getting a covid-19 vaccine while pregnant, and getting covid-19 itself, the vaccine has emerged as the safer option by a substantial margin. The vaccines are well-tolerated by pregnant persons and help fend off cases of covid-19 that would otherwise introduce profound

medical suffering, disability, and even death. Furthermore, despite rumors on the internet, there is no evidence that vaccines have any effect on fertility. The more data emerges, the more we are finding that vaccination is proving to be safe for pregnant persons--and certainly far safer than SARS-CoV-2 infection. [22 April 2021](#).  
—Joanna Parga-Belinkie, MD

### **The downstream effect of vaccine hesitancy: outbreaks in nursing homes.**

While many who choose to forgo the covid-19 vaccine assume they are only incurring a personal risk, the reality is that their decisions may be deadly ones for many other Americans. A report [this week](#) in the CDC's *Morbidity and Mortality Weekly Report* shows how covid-19 is still a major health problem, even in areas with high rates of vaccination. The result: deadly consequences. The highlighted investigation focused on a skilled nursing facility (SNF) in Kentucky that participated in a vaccination program to get the Pfizer/BioNTech mRNA vaccine between January and February. Despite this, the facility later suffered a significant outbreak.

Of the 83 residents at the facility, 75 (90 percent) were fully vaccinated. Of the 116 healthcare personnel (HCP), 61 (53 percent) had received vaccination. Though most of the residents at HCP received both inoculations in January, the outbreak occurred less than two weeks after a February vaccination opportunity. At that point, four residents and five HCP received their second doses. The first case was identified eight days after the February doses through an asymptomatic screening test of an HCP who had not been vaccinated. From there, things spiraled out of control. The resulting outbreak led to a total of 46 cases among 26 residents and 20 HCP. Among the infected residents, 18 had received the vaccine while only 4 cases occurred among vaccinated staff members. Unvaccinated residents had a three-fold greater infection rate compared to a rate 4 times higher for HCP. Alarmingly though, the infection rate among vaccinated residents was still 25 percent and 7 percent among HCP, which are high compared to figures from other studies which have found very low rates of infection among healthcare workers after vaccination. Apparently, vaccination lowers infection rates *en masse* but when an outbreak does occur, the vaccines do not iron-clad protection. There was one death among a vaccinated resident, and two among unvaccinated residents.

Meanwhile, vaccine efficacy against symptomatic covid-19 was still found to be 86.5 percent among the residents and 87.1 percent among the HCP. In addition, four reinfections were reported, including in one resident who was 300 days out from the previous infection. This person was unvaccinated, required hospitalization, and ultimately died covid-19. This was an unusual but alarming instance of reinfection leading to a death.

Despite almost all the residents being vaccinated, a large outbreak with fatal results still occurred due to a single unvaccinated HCP. This microcosm displays the implications of some people shirking vaccination, especially given the deadly consequences for those around them. Real world vaccine [efficacy](#) from this data are largely consistent with prior studies with respect to symptomatic covid-19. But these data also show that some people, especially those with multiple medical comorbidities, still carry some mortality risk after vaccination. Nevertheless those risks remain far higher among the unvaccinated. [23 April 2021](#).

—Christopher Sampson, MD, FACEP

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*Brief19* is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health policy, and public policy.