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Worried About Having a Baby During the Pandemic?

Research provides cautious optimism about how COVID-19 affects pregnant women and their children

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Of the 2.5 million women currently pregnant in the United States, many are likely worried about how a coronavirus infection might affect them and their babies. A great deal of research has shown that pregnancy conditions not only affect the mother but can also harm her children. Studies have shown that if a mother gets flu during her pregnancy, a resulting infection can lead her to give birth prematurely—and strong cases could even affect the children as adults. In his pathbreaking work, Columbia University economist Douglas Almond documented lower incomes and higher adult disability rates among the infants that were in utero during the Spanish Flu pandemic of 1918.

Will the children born during the coronavirus pandemic suffer the same fate as those born during the 1918 Spanish Flu?

Currently, no one can say with certainty whether a mother's coronavirus infection could impair an infant's development in utero, but the evidence as of now offers some cautious optimism. The rate of reported COVID-19 deaths among pregnant mothers is low, and while infections occur in pregnant mothers, most women only experience mild cases or show no symptoms. Children born to mothers who had COVID-19 while pregnant seem to show no detectable impairments, and typically test negative for the virus.

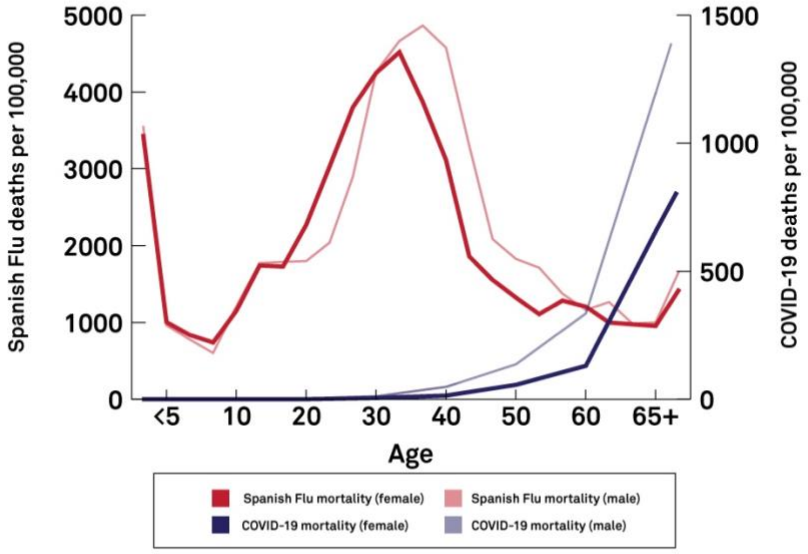
How did pregnant mothers fare during the Spanish Flu pandemic compared with the current one?

Although the current pandemic is often compared to the Spanish Flu pandemic, the 1918 influenza virus had a very different and more devastating impact—particularly for pregnant mothers. Figure 1 shows the age of those who died of both COVID-19 deaths in New York City this year and Spanish Flu in Philadelphia in 1920, one of the most severely hit cities during the Spanish Flu pandemic. Both mortality rates are shown per 100,000 people.[i]

"Out of 16,493 COVID-19 deaths in New York City between February 1 and May 20, 2020, not a single woman 25 or younger died."

COVID-19 Mortality Rates Versus the Spanish Flu

Using data from New York City in 2020 and Philadelphia in 1918, IPR economist Hannes Schwandt compares COVID-19 mortality rates versus Spanish Flu mortality rates by age and gender. The data show that COVID-19 mortality rates have been much higher for individuals over 60 compared to the Spanish Flu, which had much higher mortality rates for people between the ages of 20–40.



Source: Data on COVID-19 death counts for New York City from Centers for Disease Control and Prevention (2020), combined with population estimates for 2017 from New York State Department of Health (2017). Data on Spanish Flu mortality from Rogers (1920).

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Deaths due to COVID-19 increase exponentially with age, with extremely low death rates among infants, children, and young adults. As seen in Figure 1, death rates are extremely low among infants, children and young adults. (These numbers include recent cases of Multisystem Inflammatory Syndrome). The numbers of young women who die of it are particularly low: Out of 16,493 COVID-19 deaths in New York City between February 1 and May 20, 2020, not a single woman 25 or younger died. For women between 25 and 34 years old, only 5 out of every 100,000 have died—and this figure is far lower than the rate for women 65 or older, where the data show more than 740 deaths per 100,000.

For the Spanish Flu, the age profile of deaths looked dramatically different. They were highly concentrated among infants and young adults. Among women, the majority died in their child-bearing years, and mortality was especially high among pregnant women. For every death at the time, there were many more cases of severe illness, with recorded stillbirths more than doubling during the pandemic.

In other words, Spanish Flu infections caused many pregnant mothers to fall extremely ill even if they survived the pandemic. The current experience with coronavirus infections could not be more different, as the infections are typically mild or even go largely unnoticed in pregnant mothers.

This brings us to the last question in assessing the relative risks of the two pandemics on a developing fetus:

Are mothers' mild responses to coronavirus infections good or bad for an infant in utero?

Pregnant women's mild immune response to COVID-19 infections may be less physically taxing for them but may not protect the infants they are carrying from contracting the virus. Perhaps the fierce illness mothers infected with the Spanish Flu experienced shielded their in-utero babies.

But evidence shows that neither the coronavirus nor the influenza virus typically passes the placenta, so the baby is not in danger of contracting the virus. However, the mother's strong immune response to viruses such as influenza can impair a fetus' development: Such a response can lead to widespread inflammation in a pregnant woman's body that not only fights the virus but may also damage the placenta and impair fetal development.

Pregnant women's mild immune response to COVID-19 is therefore a hopeful sign.

Strong inflammation is also hypothesized to turn the mother's immune system against her developing infant. The father's genes in the fetus are foreign to the mother's body, and it has been shown that these are only tolerated due to the mediation of "helper cells" surrounding the placenta. A strong inflammatory response can compromise the healthy functioning of these cells. As a result, the infant in utero might not only suffer from the inflammation itself, but this inflammation can cause the mother's immune system to harm the fetus. It remains unclear why pregnancy makes women respond so strongly to the influenza virus, but it has been shown to happen during both the Spanish Flu pandemic and the seasonal flu. The resulting infections have had negative impacts on newborns and into adulthood.

Cautious hope and stress relief

It is important to emphasize that our understanding of the threats posed by the coronavirus is still far from complete. We learn from new research findings on a daily basis. **But from what we know so far, the good news is that coronavirus seems to impact pregnant women much less than influenza does.** Maternal influenza infections typically activate immune system responses, which have been shown to impair fetal development, but this does not seem to be happening here. Of course, it is still possible that physical or other impairments may appear later, even if they are not seen at birth. And only time will tell if infants exposed to COVID-19 during the first or second trimester will show signs of impairment at birth. But, so far, existing evidence allows cautious hope that pregnant mothers and their children will fare much better than during the last devastating global pandemic at the turn of the 20th century.

Still, that is not to say that the current pandemic has not had any effects on pregnant mothers and young children. Food insecurity is on the rise, and many young families face financial stress as unemployment soars to unprecedented levels. Nutritional, economic, and psychological stress during pregnancy is bad for the fetus—it increases the risk of poor health at birth and negative, long-term consequences. Furthermore, we do not want

to add unfounded anxieties about COVID-19 infections to mothers' list of worries—and fewer worries might help their developing infants most.

Source: Schwandt, H. 2020, May 26. Pregnancy during the pandemic. American Society of Health Economics.

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[i] The mortality rates are plotted on different Y axes since COVID-19 death rates are likely to continue increasing as the pandemic continues.