

Study: SARS-CoV-2 antibodies found in breast milk after vaccination

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Editor's note: For the latest news on COVID-19, visit <http://bit.ly/AAPNewsCOVID19>.

Women who get vaccinated against COVID-19 while breastfeeding pass antibodies to their children through their milk, researchers found.

The impact was greatest for mothers breastfeeding beyond 23 months, according to “SARS-CoV-2 Antibodies in Breast Milk after Vaccination,” (Ramirez DSR, et al. *Pediatrics*. Aug. 18, 2021, <https://doi.org/10.1542/peds.2021-052286>).

“Immunity from breastfeeding and its possible impact on infant protection from SARS-CoV-2 infection is a hope for breastfeeding girls and boys, for whom the prospect of vaccination in this pandemic is still a long way off,” authors wrote.

Breast milk has long been known to protect infants against numerous infections. Because antibodies have been found in the breast milk of women who were vaccinated against flu and pertussis while pregnant, researchers aimed to see if the same would be true for those vaccinated against COVID-19 while breastfeeding. The COVID-19 vaccines generate an immune response to the SARS-CoV-2 spike protein.

Researchers studied 98 women in Spain who had never been infected with SARS-CoV-2 and were breastfeeding at the time they received an mRNA COVID-19 vaccine. They compared the group to 24 breastfeeding women who had not been vaccinated.

Fourteen days after the second dose of vaccine, they analyzed blood and milk samples, looking for immunoglobulin (Ig) types A, G and M against SARS-CoV-2.

All vaccinated women had SARS-CoV-2 spike protein receptor-binding domain IgG antibodies in their blood, and the median concentration was about 3,380 binding antibody units (BAU)/mL. Neutralizing antibody titers were defined as greater than 560.9 BAU/mL.

About 22.5% of vaccinated women had IgM in their serum. The control group was negative for both types of antibodies.

All of the milk samples were positive for IgG antibodies with a median of 12 BAU/mL. This was lower than the vaccinated women's serum but higher than the control group.

About 89% of the milk samples had anti-SARS-CoV-2 spike protein IgA antibodies. IgG and IgA concentrations were higher in mothers breastfeeding beyond 23 months compared to those breastfeeding less than that. Authors also found women with higher IgG levels in their blood had higher IgG levels in their breast milk.

The findings from the milk "suggest mechanisms that adapt to the immune development of the baby by which mothers initially protect the infant through abundant (secretory) IgA and (secretory) IgM in their transitional milk and subsequently contribute to the development of the baby's adaptive immunity with IgG antibodies in their mature milk," authors wrote.

Recommendations from health officials

Centers for Disease Control and Prevention (CDC) Director Rochelle P. Walensky, M.D., M.P.H., recently said she recommends women who are pregnant, thinking about becoming pregnant or breastfeeding get vaccinated against COVID-19. A [recent study found](#) no increased risk of miscarriage. Another study of [vaccine safety monitoring systems](#) did not find concerns for pregnant women or their babies.

"The increased circulation of the highly contagious delta variant, the general low vaccine uptake among pregnant people and the increased risk of severe illness and pregnancy complications related to COVID-19 infection among pregnant people make vaccination for this population more urgent than ever," Dr. Walensky said.

Resources

- [Information from the CDC on COVID-19 vaccines while pregnant or breastfeeding](#)
- [Information from the CDC on clinical considerations for COVID-19 vaccines](#)
- [CDC COVID vaccination toolkit for pediatricians](#)
- [AAP guidance on providing COVID-19 vaccines to adolescents](#)

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