



Human Milk and COVID-19 Antibodies – Another Win for Breastfeeding?

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In a recently released article in *Pediatrics*, authors Dolores Sabina Romero Ramírez MD and María Magdalena Lara Pérez MD and colleagues studied the concentration of antibodies to SARS-CoV-2 virus in the breastmilk of COVID-vaccinated mothers ([10.1542/peds.2021-052286](https://doi.org/10.1542/peds.2021-052286)). At the onset of the pandemic, there was grave concern that breastmilk could transmit the SARS-CoV-2 virus to infants; fortunately, good science has demonstrated that human milk is not a route of infection for the virus.¹ The next question, tackled in this current study, is whether the breastmilk of mothers who have had COVID-19 vaccine could be protective to their infants. We know that breastmilk has remarkable immuno-protective properties – but is it beneficial in transmitting SARS-CoV-2 protective antibodies to an infant?

In this fascinating study, conducted from February 2nd to April 4th, 2021, the authors prospectively recruited a convenience sample of healthcare professionals who were breastfeeding their infants at the time of their SARS-CoV-2 vaccination. One hundred women were invited the day after their second dose of vaccine (94% received Pfizer- BNT162b2 mRNA- COVID-19, and 6% received Moderna -mRNA-1273 COVID-19). Twenty-four unvaccinated women who were breastfeeding and had not previously had COVID-19 disease were enrolled as the control group. Blood and breastmilk samples were collected on day 14 after the second vaccine dose. All vaccinated women developed neutralizing antibody titers, as defined by the vaccine manufacturers, and none of the unvaccinated women had any detectable neutralizing antibody.

And what about the breastmilk? There were no antibodies found in the breastmilk of those in the control group. All vaccinated participants, however, had IgG antibodies and 89% had IgA antibodies against the

SARS-CoV-2 in their milk, and there was a strong positive correlation between maternal blood and breastmilk antibody levels. In this study, vaccinated mothers had breastfed for a mean of 11 months, and although breastfeeding duration was not clearly associated with antibody levels for durations <24 months, this is an area for future research. Many more details are revealed in the paper. Will breastfeeding be the best way to “vaccinate” infants and children under 2 years of age against SARS-CoV-2? This intriguing story, like so many others with COVID-19, is still evolving, and this study is one more piece of the puzzle.

Reference:

1. Ramírez DSR, Lara-Pérez MM, Pérez MC, et al. Transmission of SARS-CoV-2 through breast milk and breastfeeding: a living systematic review. *Ann N Y Acad Sci.* 2021 Jan;1484(1):32-54. doi: 10.1111/nyas.14477. Epub 2020 Aug 28. PMID: 32860259; PMCID: PMC7970667.

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- [Parenting Pressures Among Academic Pediatricians During the COVID-19 Pandemic](#)
- [Neonatal SARS-CoV-2 Infections in Breastfeeding Mothers](#)
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