Letters

COMMENT & RESPONSE

In Reply Some of the limitations of our study are well summarized by Egwang. As we previously described, our study’s sample size was small, and our intention was to provide rapid initial data evaluating the extent of vaccine-related messenger RNA (mRNA) passage to infants through breast milk. We are reassured that there was no evidence of significant presence of vaccine mRNA in human milk after vaccination, nor any serious infant symptomatology.1,2 We hope our study has also laid the groundwork for future studies with other cohorts or innovative methods.

Although our results may not be generalizable to all mothers worldwide, we believe that they provide the first direct evidence showing there was not routine transfer of substantial amounts of vaccine mRNA components into human milk 4 to 48 hours postvaccination. These results help fill a critical void in the current literature and strengthen current recommendations that COVID-19 vaccines are safe in lactating individuals. Given the proven protection of COVID-19 mRNA-based vaccines against severe COVID-19 disease, and the continuing global pandemic that has been associated with more than 4.4 million deaths, it is important to protect breastfeeding mothers from COVID-19 disease. Although small, our study provides information that is important to this population, and we hope it relieved some reasons for vaccine hesitancy.

Of interest is the concern that in cases of subclinical mastitis, shedding of larger molecules might occur. However, the biological relevance of this potential transfer is likely minimal for COVID-19 vaccine mRNA or spike protein. In contrast to the passage of HIV and Epstein-Barr virus particles that might transmit disease through human milk, the passage of noninfectious vaccine mRNA particles would not be expected to cause negative effects. Children experience innumerable novel exposures to maternal RNA, DNA, and environmental antigens throughout infancy and beyond. In fact, many countries recommend that HIV-positive mothers breastfeed their infants despite the known risks of transmission from mother to child.3 Thus, minute quantities of vaccine-related material below the limits of detection in our study are unlikely to have significant negative impacts on infant health.

Thus, balancing the known benefits of COVID-19 vaccination in general, pregnant, and lactating populations and their children against the lack of data suggesting potential harm,4,6 we believe that the benefits of COVID-19 vaccination, at this time, exceed any potential risks for lactating mothers, even in Africa.

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Published Online: October 18, 2021. doi:10.1001/jamapediatrics.2021.4087

Conflict of Interest Disclosures: Dr Flaherman reports grants from the National Institutes of Health, the Weizmann Institute of Science, the Human Frontier Science Program, the International Society for Research In Human Milk and Lactation, the Bill and Melinda Gates Foundation, the US Centers for Disease Control and Prevention Foundation, the Robert Woods Johnson Foundation, the California Health Care Foundation, and the Yellow Chair Foundation, and support from the Marino Family Foundation. Dr Gaw reports grants from the National Institutes of Health, the Bill and Melinda Gates Foundation, the US Centers for Disease Control and Prevention Foundation, the Robert Wood Johnson Foundation, the Yellow Chair Foundation, and the California Health Care Foundation. No other disclosures were reported.


6. Low JM, Gu Y, Ng Shu Feng M, et al. Codominant IgG and IgA expression with minimal vaccine mRNA in milk of BNT162b2 vaccinees. NPJ Vaccines. Published online August 19, 2021. doi:10.1038/s41541-021-00370-z

jamapediatrics.com JAMA Pediatrics Published online October 18, 2021 E1
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