Review 2: "The Spike-specific IgA in milk commonly-elicited after SARS-Cov-2 infection is concurrent with a robust secretory antibody response, exhibits neutralization potency strongly correlated with IgA binding, and is highly durable over time"

Veronique Demers-Mathieu¹

¹Senior Research Scientist, Medolac Laboratories, A Public Benefit Corporation, Neonatal Immunology, USA

Published on: May 21, 2021

License: [Creative Commons Attribution 4.0 International License \(CC-BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

RR:C19 Evidence Scale rating by reviewer:

- **Potentially informative.** The main claims made are not strongly justified by the methods and data, but may yield some insight. The results and conclusions of the study may resemble those from the hypothetical ideal study, but there is substantial room for doubt. Decision-makers should consider this evidence only with a thorough understanding of its weaknesses, alongside other evidence and theory. Decision-makers should not consider this actionable, unless the weaknesses are clearly understood and there is other theory and evidence to further support it.

Review:

Abstract

1. The title and abstract are extremely long. Authors should summarize the most important findings for the abstracts. In most of the peer-reviewed journals, references are not present in the abstract.
2. "antibodies bearing secretory component" seems a strange and inappropriate term to describe secretory antibodies.

Background

1. Infants younger than 6 months of postnatal age cannot be vaccinated due to their immature immune systems. It is why influenza and pertussis vaccines are given after 6 months.
2. Mistake "ia" should be "is" (sentence: though total SC concentration decreases by ~60%, there ia no decrease in the stomach of infants born pre-term (within the first 3 months of life) - a population highly vulnerable to infection)

Study participants

1. The criteria of inclusion and exclusion for the donors are missing in the methods section.
2. How did the authors determined the sample size?

3. Did all donors have a clinical /instrumental diagnosis of COVID-19 infection (COVID-19 PCR test)? This information should be presented in the methods.
4. Donors and Control groups are not adequately described. All the clinical characteristics of the participants are missing. The demographic description is critical as these maternal factors influence the breast milk antibody titers and neutralizing activity between mothers.

Analytical Methods

1. Were control negative with only media and control negative with milk with low/absent SIgA activity (heat-treated human milk) included as controls in the experiment? These controls are critical as human milk contains other antimicrobial components that could reduce viral infectivity.

Discussion

1. Authors should explain why they selected 4-6 weeks and 4-10 months post-infection to evaluate antibody titers and neutralizing activity.
2. Limitations of this study are missing and should be included.

Figure

1. Asterisks to show differences between groups are missing on all Figures.
2. Authors should also add the statistical analysis in the figure legend and the sample size of each group.

Table

Add a table with the demographic description of the participants