



Early COVID-19 Vaccine Hesitancy Characteristics in Mothers Following Bariatric Surgery: Correspondence — a Response

Heather Strong¹  · Jennifer Reiter-Purtill¹ · Meg H. Zeller^{1,2}

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Dear Editor,

We welcome the opportunity to respond to the authors' reply to our article, "Early COVID-19 Vaccine Hesitancy Characteristics in Mothers Following Bariatric Surgery" [1]. The goal of our work with this unique sample was to take a snapshot of COVID-19 vaccine intentions from November 2020 to February 2021, a time which also unexpectedly coincided with the initial COVID-19 vaccine distribution phase in the United States. Notably, vaccine hesitancy was, and continues to be, widespread, with contributors to hesitancy multifactorial (e.g., negative vaccine beliefs, perceived low risk of infection, lower educational attainment) [2]. We appreciate the authors' suggestion of additional factors that might relate to vaccine hesitancy in our sample, namely, the presence of other obesity-related comorbid conditions and study timing. Regarding the potential influence of the presence of comorbid conditions on vaccine hesitancy, findings based on the extant literature to date are mixed, whether examined in community samples [2, 3] or in samples with obesity [4, 5]. Given that individuals with obesity often experience comorbidities, the potential role of comorbidities in vaccine hesitancy is important to consider. However, for certain subgroups with obesity, such as those who have undergone bariatric surgery, which commonly results in the remittance of comorbidities (i.e., type 2 diabetes, hypertension) [6], this may become a more complex question beyond the scope of our current study [1]. Undoubtedly, further research is warranted to understand the role of comorbidities

and should consider the different contextual complexities associated with sub-groups with obesity.

As the authors of this letter suggested, the impact of the stage of the pandemic is a critical consideration in all COVID-19 pandemic research. Certainly, the degree of knowledge about a COVID-19 vaccine at the early stages of vaccine distribution likely played a role in the rate of hesitancy and beliefs observed in our sample. In addition to lack of information, the literature also notes that other factors commonly associated with COVID-19 vaccine hesitancy include fear of side effects, concerns about safety and effectiveness, and uncertainty about duration of immunity [2, 7]. All of these factors would reasonably be expected to change with time, at least for some individuals. To that end, as research on vaccine hesitancy continues, no doubt it is crucial to consider the impact of the stage of the pandemic on factors related to hesitancy. Considering the frequently changing landscape of the COVID-19 pandemic, the current discussion highlights the overarching challenge for the research community to keep pace with the events of the pandemic, the changing cognitive processes of individuals, and emerging published research.

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Declarations

Ethics Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

Conflict of Interest The authors declare no competing interests.

✉ Heather Strong
Heather.Strong@cchmc.org

¹ Division of Behavioral Medicine and Clinical Psychology, Cincinnati Children's Hospital Medical Center, 3333 Burnet Avenue, Cincinnati, OH 45229, USA

² Department of Pediatrics, University of Cincinnati College of Medicine, 3230 Eden Avenue, Cincinnati, OH 45267, USA

References

1. Strong H, Reiter-Purtill J, Howarth T, West-Smith L, Zeller MH. Early COVID-19 vaccine hesitancy characteristics in mothers following bariatric surgery. *Obes Surg*. 2022;1–9. <https://doi.org/10.1007/s11695-021-05872-2>
2. Aw J, Seng JJB, Seah SSY, Low LL. COVID-19 vaccine hesitancy—a scoping review of literature in high-income countries. *Vaccines*. 2021;9(8):900. <https://doi.org/10.3390/vaccines9080900>.
3. Savoia E, Piltch-Loeb R, Goldberg B, Miller-Idriss C, Hughes B, Montrond A, et al. Predictors of COVID-19 vaccine hesitancy: socio-demographics, co-morbidity, and past experience of racial discrimination. *Vaccines*. 2021;9(7):767. <https://doi.org/10.3390/vaccines9070767>.
4. Scoccimarro D, Panichi L, Ragghianti B, Silverii A, Mannucci E, Monami M. Sars-CoV2 vaccine hesitancy in Italy: a survey on subjects with diabetes. *Nutr Metab Cardiovasc Dis*. 2021;31(11):3243–6. <https://doi.org/10.1016/j.numecd.2021.09.002>.
5. Vallis M, Glazer S. Protecting individuals living with overweight and obesity: attitudes and concerns toward COVID-19 vaccination in Canada. *Obesity (Silver Spring)*. 2021;29(7):1128–37. <https://doi.org/10.1002/oby.23182>.
6. Elder KA, Wolfe BM. Bariatric surgery: a review of procedures and outcomes. *Gastroenterology*. 2007;132(6):2253–71. <https://doi.org/10.1053/j.gastro.2007.03.057>.
7. Lin C, Tu P, Beitsch LM. Confidence and receptivity for COVID-19 vaccines: a rapid systematic review. *Vaccines*. 2021;9(1):16. <https://doi.org/10.3390/vaccines9010016>.

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