Reviewer's report

Title: Food insecurity is a barrier to prevention of mother-to-child HIV transmission services in Zimbabwe: A cross-sectional study

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Reviewer: Larry Chang

Reviewer's report:

This is a well written paper on a topic of interest and importance to the field of HIV and PMTCT. The overall study is well conducted and presented. It has a large and representative sample for a large population. The study has some interesting and important findings. However, I believe this paper would benefit from some additional attention paid to some puzzling aspects of the results.

Major Compulsory Revisions

1. Assessment of HIV Status—Please indicate whether and how the HIV results were returned to mothers and what was done for those who tested HIV-positive, e.g. referral to clinic?

2. The most puzzling aspect of these results is the direction of effect for certain outcomes for the moderately food insecure group among the HIV-infected. For example, this group was the least likely to have ever exclusively breastfed and least likely to have an HIV-infected infant. They were also the most likely to have received all key maternal health services among the HIV-infected women (not statistically significant but the direction of effect is opposite of what one might expect). Thus, the “dose-response” one would anticipate is not present for key outcomes. On page 9, line 25, I think the % for the moderate group should also be reported here or in the following sentence. You may need to be more specific in the discussion about severe food insecurity rather than just using the term food insecurity. Relatedly, some of the statements may need to be attenuated in light of this puzzling finding, e.g. p10, line 21, while the severe food insecure group might be providing “supporting” data, doesn’t the moderate food insecure group provide the opposite? Perhaps the food secure population has certain habits due their higher SES which may have paradoxically resulted in more negative outcomes compared to moderately food insecure? Perhaps this indicates some limitations in the food insecurity scale used?

3. “There was no association between food insecurity and completion of the cascade when the analysis was restricted to HIV-infected women.” This finding deserves more recognition and discussion. In Table 3, one might consider adding a middle column on HIV-infected women and completion of PMTCT services. What is the public health/research import if the key group that needs to complete the cascade has no negative association with food insecurity? Why is there a difference compared with the HIV-uninfected women?
Minor Essential Revisions

1. It is not clear what the primary outcome(s) of the study are and if they were conceived a priori. It may be that there were none and the analytic strategy was more exploratory in nature. That is okay, but it would be good to clarify as there may be an issue with multiple comparisons given there are quite a few outcomes listed in Table 2.

2. Related to #3 above, I think it would help to be clear about what population is being described in the abstract, e.g. in the conclusions section, “…in the PMTCT cascade among women with a recent birth…

3. Re: abstract. I would suggest framing the results in a more conservative manner, e.g. “In the unadjusted analysis, among HIV-exposed infants…. “.

Discretionary Revisions

1. Is the eMTCT acronym really needed as I didn’t see it used much?

2. In general, throughout, I would prefer seeing p values in addition to the 95% CIs. I think this may be somewhat up to the style and preference of this journal.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.