Reviewer's report

Title: Factors associated with HIV infection among children born to mothers on the Prevention of Mother to Child Transmission programme at Chitungwiza Hospital, Zimbabwe, 2008

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Reviewer: Lars Thore Fadnes

Reviewer's report:

The manuscript has several possibilities for improvement. Much of the findings in the article are known. The writing is acceptable, but the method and discussion sections need to be elaborated much.

1. Is the question posed by the authors well defined?

The objective of the researchers is stated quite clearly. However, it is not clear whether the methodology is capable of answering all the questions/objectives (e.g., whether immunization status influences HIV status). The first sentence “We investigated factors associated with HIV infection among children born to HIV positive mothers already on the PMTCT programme at Chitungwiza Hospital. “ seems to cover what has been done in the article better. Thus, one option could be to delete the second sentence of the objectives (last sentence in the background section).

2. Are the methods appropriate and well described?

No, the methods need to be better described (see comments below).

3. Are the data sound?

Some of the stratification/categorisation choices seem arbitrary and in some cases counterintuitive. As an example, in the list of independent risk factors breastfeeding is presented as a risk factor while breastfeeding for less than 6 months is presented as a protective factor (see more comments below). However, it seems to be possible to improve this through revision.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

The manuscript lacks sections on use of statistics, selection of the study participants (which time period, inclusion criteria etc), hardly has any discussion of limitations, were the respondents interviewed specifically for the study or as part of clinical setting, whether clinical records were used or whether it was a specifically designed form for the study etc. Were the women interviewed by the same personnel who counselled on e.g. breastfeeding? If so, such aspects need to be discussed in the limitations.

The setting in terms of availability of antiretroviral treatment among mothers, nevirapine use during delivery etc could also be elaborated.

5. Are the discussion and conclusions well balanced and adequately supported
by the data?

The article could have had a better and richer discussion. This includes a more elaborated discussion on aspects related to problems with early weaning of breastfeeding (see reference Kuhn L et al. N Engl J Med 2008, complete reference later in review).

There are also several statements without source/reference (such as “The risk of MTCT through breastfeeding is cumulative. The longer the HIV-infected mother breastfeeds, the greater the additional risk of transmission through breastfeeding.” This is very likely to be true according to the literature, however please include a reference for statements that cannot be concluded from your study.

The conclusion seems to also bring up aspects which is difficult to see is built on the findings. Why do you end up to conclude “So we recommend that the ANC counsellors encourage exclusive breast feeding period for 4 months”?

6. Are limitations of the work clearly stated?

No. The limitations needs to be further elaborated.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

The article could have a better/richer discussion and background. I suggest that the following references could be considered to be referenced:


8. Do the title and abstract accurately convey what has been found?
The title is acceptable. The abstract could be improved according to the suggested revisions in the paper.

9. Is the writing acceptable?
The writing is generally acceptable.

Major Compulsory Revisions
See comments above related to particularly the methods section, discussion and conclusion.

There are no descriptions of the regression analysis in the methods section. Is it stepwise forward or stepwise backward? There is no indication on which tools/programs that has been used.

In the regression analysis, it is stated in the result section that “Further multivariate analysis (logistic regression analysis) was done to estimate the measures of association while simultaneously controlling for the confounding variables immunization and hospitalisation since infancy.” Was these factors found to be confounders or regarded as potential confounders?

Which factors were included in the stepwise model?

In the abstract it is written “being exclusively breast fed for less than 6 months” while in table 2 it is written “Breast feeding for # 6 months”. Please present the categories similarly. How is exclusive breastfeeding defined in this study? It is based on 24-hour recall, 1-week recall, ever recall? Are medicines/vitamin supplements/oral vaccines “allowed” in the definition of exclusive breastfeeding?

The list of independent risk factors presenting breastfeeding as a risk factor while breastfeeding for less than 6 months as protective factor seems to be a counterintuitive way of presenting data. Please rather use a reference category which is e.g. “no breastfeeding” comparing with “breastfeeding for less than 6 months” and “breastfeeding for more than 6 months”

Minor Essential Revisions
The presented adjusted odds ratios (aOR) are given with two decimals. This indicates higher precision of the estimates than what is observed. Thus, please have a maximum of two valid digits in the aORs (1 decimal in the aORs <10 and no decimals in the aORs >10).

Similarly in table 1, with n of 60 in each group, the percentages could without decimals.

Discretionary Revisions
The following sentence could be simplified: “In spite of all these efforts to reduce the risk of mother to child transmission of HIV, 25% of the children, born to HIV positive mothers, have themselves tested positive to HIV after 18 months despite
having been on the PMTCT programme.” I suggest: “Among the children born to HIV positive mothers participating in the PMTCT programme for 18 months, 25% tested positive to HIV.”

Why introduce a new abbreviation “maternal-infant transmission (MIT)” when “Mother-to-child transmission (MTCT)” is familiar to much of the clinical and scientific audience in the topic of paediatric HIV.

**Level of interest:** An article of limited interest

**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