Author's response to reviews

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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Author's response to reviews: see over
Major Compulsory Revisions

You wrote that “We included the following variables in the stepwise model: Maternal CD4 count, breastfeeding >3 months, exclusive breastfeeding, treated for an STI, full immunization status, nevirapine adherence, and exclusive breastfeeding for #6 months, hospitalization and mixed feeding.”

Are the variables/categories “breastfeeding>3 months”, “exclusive breastfeeding for #6months” and “mixed feeding” independent? By definition, they are not, aren’t they? Thus the structure of the model violates assumptions of the regression model used. Please restructure the model (e.g. one variable which includes the different feeding categories: e.g. breastfeeding pattern: category 1: exclusive replacement feeding, category 2: exclusive breastfeeding up to 3 months of age, category 3: predominant feeding up to 3 months of age and 4: mixed feeding during first 3 months of age.

*We tried to revise the categories for the logistic regression model but unfortunately the data was collected without these 4 suggested categories. It was an error we made in the design of the questionnaire that makes it impossible to manipulate the data into the new variables and we are unable to rectify now.*

You did not answer the following question in the last review, neither can I see that it has been included in the manuscript: From which recall type is exclusive breastfeeding defined in this study? Is it based on 24-hour recall, 1 week recall, ever recall?

*We apologize for missing this point. The recall type for breastfeeding was “ever recall”*

Could you explain why the unadjusted OR of mixed feeding which is 4.3 (1.1-16) according to Table 3, while it is 29 (4.2-207) in the adjusted OR in Table 4. Is it due to the duration of breastfeeding? Could it be reasons to modify selection of the included variables? Table 4 does also not specify what the reference values are. Is mixed feeding compared to exclusive breastfeeding or exclusive replacement feeding?

*We are not sure of the reasons for this large difference. We agree it would have been one of the reasons to modify selection of variables included in the module. Unfortunately we cannot perform this because of the flaw that was in the design of the questionnaire*

Limitations: What about the case control design? (Causality versus associations?)
We have revised the limitations to include the weakness of the case control design in terms of determining causality and association.

There are insufficient descriptions of the regression analysis in the methods. What were the criteria for selection of the variables in the stepwise procedure? Which regression assumptions were checked?

We have revised the methods to further describe the regression analysis by including the criteria that was used to select variables for the stepwise procedure and stating the regression assumptions that we checked.

You wrote that “We have reviewed the suggested literature and included it in this manuscript” I can only see the reference of WHO and Horvath (the latter is wrongly spelled in the reference list), and I cannot see the essential references of Kuhn 2008, Lehman 2007, Becquet 2009, Coovadia 2008, Thea 2006 and Kumwenda 2008, which all could contribute to improve discussion. These could lift the discussion.

We sincerely apologize for the statement we made. We had only accessed some of the documents as but failed to get others. We have made a more serious search and reviewed the remainder of the suggested documents and these are now included in the body of the manuscript and the reference list.

In my last comments, I wrote that “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 adjusted ORs (1 decimal in the aORs<10 and no decimals in the aORs>10). When you write that “We have revised the aORs as recommended”, it is surprising to still see this unchanged in the abstract section, unchanged in the results section, unchanged in table 3 and unchanged in third column of Table 4. The only change I can see that you have done is in the second column of Table 4. If you disagree that a change is needed, I would prefer that you would be make this clear in the cover letter and not pretend it has been done in the manuscript.

We have revised the presentation of aORs in the whole document.

Minor Essential Revisions
It would be nice if the percentages in the result section are presented similarly as in the Table (without two decimals due to accuracy).

We have presented the percentages in a similar manner as recommended by reviewers

In the results section, it is written e.g. “The median age for the mothers was 28 years (Q1= 23.5, Q3= 31)”. The parenthesis seems to present the interquartile range (IQR). I suggest rather writing “The median age for the mothers was 28 years (IQR 23.5-31)”. Please also write out IQR the first time.
We have revised the sentence to read as advised and spelled out what IQR in full. The sentence “Assuming exposure in the children who were HIV negative to be 25% and the OR to be 3.16, the minimum sample size was 60 cases and 60 controls” is unclear and need to be re-phrased.

The sentence has been revised so that it is clearer.

It would be nice if your definition of mixed feeding is also included

We have included a definition of mixed feeding in the methods section.

There is still insufficient description of the study setting (e.g. who interviewed the mothers, in which language, was it done in the clinical setting etc.)

We have revised the description of the study setting to include who performed the interviews, the language and the setting in which the interviews were conducted.