Reviewer’s report

Title: Mother-to-child transmission of Human Immunodeficiency Virus in a ten years period.

Version: 1 Date: 5 August 2011

Reviewer: Claire Townsend

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MAJOR COMPULSORY REVISIONS

1. Although this paper is well laid out and fairly clear, it unfortunately adds very little to the literature. Risk factors for mother-to-child HIV transmission (MTCT) are already well-established, and there is nothing particularly novel about this study. Its main value is the reporting of the MTCT rate in a Brazilian setting, although this has also been reported in other studies.

2. There are no particular problems with the study methodology, but some of the statistical methods are not appropriate for the relatively small sample size, e.g. the presentation of risk ratios when only small numbers of events are observed (leading to very wide confidence intervals).

3. Furthermore, in light of the strong associations between risk factors for MTCT (e.g. between late presentation for antenatal care, short duration of treatment and unplanned/preterm delivery), unadjusted analyses are likely to be misleading. Indeed the authors report that most women whose infants were infected had poor adherence. Without adjusting for adherence, it is difficult to interpret these results. The authors should also be wary of multiple testing, particularly when some groups have such small numbers of individuals.

4. The discussion and conclusions are poorly supported by the data, and the authors have over-interpreted their findings. For example:

   a) they report that preterm delivery and low birth weight were “not observed as complications of HAART use in pregnancy” and yet this was not one of the outcomes of their study and they showed no convincing data to support this statement. It is not clear which groups they were comparing in the results section. Furthermore they did not adjust for potential confounders, nor did they explore the possibility of bias. Their results certainly do not ‘confirm the safety of antiretroviral drugs during pregnancy’, and they should avoid making such statements.

   b) Although there may be reasons why obstetric complications such as IUGR or infections could be associated with MTCT, this study is not sufficiently powered to detect such effects, particularly when only a few women experienced the complications (e.g. only 4 women had ‘neurotoxoplasmosis’) and the results were not adjusted for other factors.
c) They authors also state that “Premature rupture of membranes followed by vaginal delivery was present in one case of newborn infection, confirming it as a collaborating factor for MTCT”. No association can be confirmed by only one case!

5. Writing Style - Overall this is a fairly well-written paper, but there are a few areas for improvement, for example:

- first sentence of Subjects and Methods section; second paragraph of the Factors Associated with mother-to-child transmission section; etc. The title and abstract are clear and reflect the content of the paper.

MINOR ESSENTIAL REVISIONS

6. There are a number of spelling/grammatical mistakes, e.g. coinfections is spelled coinfections, chi-square is spelled qui-square, 'adhesion' should be 'adherence'.

7. Capurro should be referenced, as this term may not be familiar to many readers.

8. When presenting percentages, a consistent number of decimal places should be used (either none or one).

9. The authors should reference their statement in the Discussion that two weeks of antiretroviral therapy is sufficient to decrease the risk of MTCT. I am not aware of any clear data on this.

10. Ovular infection needs defining, as is not clear what this is.

11. Figure 1 – numbers are missing, and the formatting is corrupted.

12. When presenting risk ratios (e.g. Table 2) the largest group should be used as the reference category (unless there is good reason why another group should be used, in which case this should be justified).

DISCRETIONARY REVISIONS

13. Page numbers should be added.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests