Reviewer's report

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

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Reviewer: Regina C Succi

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This is an evaluation of mother-to-child transmission (MTCT) rates and related factors in a selected population of HIV-infected pregnant women from a Brazilian tertiary hospital between 2000 and 2009.

The question posed by the authors although not new is still contemporary particularly in the country where the investigation was done. The methods were appropriate but not well described with insufficient details as inclusion or exclusion criteria.

452 deliveries were analyzed, but only 401 infants and a final 392 gestation events were described, why this discrepancy? The exclusion criteria were not possible to verify because Figure 1 was corrupted and the data are not visible.

There are difficulties with the English language, which makes it difficult to understand the meaning of the text in some paragraphs. Legend or key-words are necessary to understand the tables.

The inclusion and exclusion criteria were not defined. “In the few cases, where a final diagnosis of HIV infection in the newborn was not possible due to loss of follow up, the main caretaker was contacted by phone or mail”. These mother-infant pairs were excluded of the analysis? How many children were lost of follow-up?

There are no definitions of the variables. In the Methods section it should be explained the definitions used in the study: which hemoglobin level was considered for women and children anemia? What is a good TARV adhesion? When the authors say “first CD4” are they referring to the first CD4 obtained during pregnancy? Was this evaluation performed in the first trimester of pregnancy, or any time during pregnancy?

Can we say the use of ART was prophylactic based only on the CD4 absolute number during pregnancy? If the woman was on HAART before pregnancy, she can have a CD4>350 cel/ml and still needs HAART as therapy and not only prophylactic.

The tables were not clear, their titles were not proper and there are no explanations of the abbreviations used, or the meaning of the labels. The values of the items are not defined – for example: VL should be copies/ml; CD should be cel/ml; age in years, etc.

Table 2 refers to HAART as any ARV – but AZT monotherapy or two NRTI
cannot be named HAART.

The first line of Table 3 is not understandable. “Variables with and without” – it should be better explained.

For a ten year period analysis it would be interesting to know the transmission rate each year besides the MCTC of the total period.

The authors concluded that isolated risk factors can enhance the transmission rate of HIV, but these are impossible to establish based in an univariate analysis. The women with anemia or toxoplasmosis, or intracranial hypertension are not the same with low CD4 count, or no HAART, or no pre-natal assistance?

The infants outcome (infected or no-infected) should be adjusted for the variables such as ARV NONE, PROPHYLAXIS or TREATMENT; maternal CD4; AIDS-related illness, etc

Not all conclusions could be supported by the data considering that no multivariate analysis was done.

My suggestion is that Major Compulsory Revisions must be done before a decision on publication can be reached.

**Level of interest:** An article of importance in its field

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'