Reviewer's report

Title: Treatment outcomes in HIV-infected adolescents attending a community-based antiretroviral therapy clinic in South Africa.

Version: 1 Date: 16 September 2011

Reviewer: Elena Chiappini

Reviewer's report:

Authors presented very interesting data regarding differences in virological outcomes and survival probability between adolescents and young and adults with HIV infection receiving combined antiretroviral therapy in an African country. Differences in viral outcomes but not in survival were evidenced.

Such data are extremely interesting. The topic of HAART outcomes in adolescents and young adults is fundamental and this reviewer agrees that data from African countries are urgently needed at this regard.

Major comments

In my opinion, a major limitation of this study is that data from adolescents with perinatal HIV infection and those with later acquisition of the infection appear to be mixed all together, probably assuming similar outcomes. Indeed this issue is still under debate and information and this regard would be useful. It would be interesting to evaluate differences between adolescents with perinatally acquired infection (72.3%) and those with sexually acquired infection (26.2%). I would suggest to analyze separately data from the two groups of adolescents or, if figures are not sufficient to get substantial results, to exclude data from adolescents with sexually acquired infection from the analysis. However it would be important to shed lights on outcomes for the cohort of adolescents with sexually acquired infection. Do they behave like adolescents with perinatal infection or are they more similar to young adults with sexually acquired infection? Is it correct to treat all these groups using the same protocols? I think that authors should try to give some answers at these questions, given the availability of data that they have.

An analysis regarding immunologic outcomes would be informative. It would be possible to analyze change in CD4 count/percentage and rate of immunologic failure? Did discordant response to therapy (i.e. virologic failure without immunological failure) equally occur into the two groups?

Similarly, analysis of clinical events in the two groups would be very informative. It would be possible that differences in virologic outcomes did not reflect in differences in survival but in differences in event free survival.

Minor comments
Please provide more details regarding laboratory tests: where were they performed? (i.e. centralized laboratory? Which methods? Cut off for viral load? …)

Please provide both raw numbers and percentage whenever in the result section.

Please expand the paragraph regarding limits of the study in the discussion section, possibly including observation regarding lack of data regarding compliance, viral resistance mutations, side effects to therapy and so on….

Discussion could be better focused, considering biological explanations for differences between adolescents with perinatal HIV infection, those with sexually acquired infection and young adults, considering the new findings of additional analyzes.

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

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

'I declare that I have no competing interests'