Reviewer’s report

Title: Adherence to Highly Active Antiretroviral Therapy and Its Correlates among HIV Infected Pediatric Patients in Addis Ababa, Ethiopia.

Version: 1 Date: 23 August 2008

Reviewer: Elaine J Abrams

Reviewer’s report:

Major Compulsory Comments:

General Comments:
This study can make a useful contribution to the literature as there are few studies that have looked at adherence amongst children in low-resource settings (RLS) where majority of HIV infected children live. It is a relatively large study compared with what has been published in the literature, adds to limited knowledge on patterns of adherence in children in RLS, and supports known factors associated with adherence. However, there are several major limitations of the work: 1) the investigators only measure caregiver self-report and do not have any biomedical measures of adherence such as viral load, pill counts, pharmacy refills. Essentially, the authors are evaluating predictors of self-reported adherence. There is controversy in the literature about the validity of self-report particularly as it applies to children. This is not noted as a limitation or addressed formally within the paper. Furthermore, the authors did not consider the child’s age in their analysis. Age is relevant to both adherence and disclosure and should be examined. Also, study procedures are somewhat vague and need to be clarified to describe whether caretakers only or both caretakers and children were interviewed and address any sample selection biases.

Specific Comments:

Abstract
Page 2 “Adherence to HAART in children in Addis Ababa was higher than other countries. This is a broad generalization.” Need to clarify self-reported adherence and compare to similar setting.

“Nutritional supports, disclosure of child Sero-status, uses of co-trimoxazole’s as prophylaxis are essential to improve adherence to ART among children.” Need to work on the sentence, it implies that provision of nutritional support, and disclosure of HIV status can improve adherence which is not the conclusion from the study.

Background
Page 3 “Of this, 2.5 million children aged 0-14 years were infected with HIV in 2007.” This is not the number of new infections in 2007; it is the number of children living with HIV. The correct number is 420,000 per UNAIDS epi update 2007
“However, every day there are nearly 1500 new infections in children under 15 years of age.” This should be 1200 per UNAIDS epi update 2007. It is customary to review what has been published/is known about the area of inquiry within the background.

Participants
Page 4 “Children who fulfill the following criteria were included in the study: Receiving continuous antiretroviral therapy for the last 12 weeks before study in the selected hospital and the caregiver was Parents or guardian that was counseled on the importance of drug adherence and on how to recognize common adverse drug reactions associated with antiretroviral drugs.” Is this the only inclusion criteria? Is this the standard of care or does it represent specialized adherence support?
Should clearly state exclusion criteria.
How was consent obtained? Written or verbal?
Were children interviewed? Are there any legal restrictions around enrolling non-biologic parents in studies?

Measurements
Page 4 “Data was collected by structured questionnaire. The questionnaire was originally developed in English.” Have the questions been validated elsewhere? Was it translated into local language before it was used? What type of questions, open ended? Were any of the common pediatric questionnaires employed in other studies used or adapted? Were older children interviewed or only caregivers?
Page 5 “Charts were reviewed to collect clinical and virological markers of the children.” Does this include Viral load data? Is VL available for this analysis?

Result
Page 6. “The majority 205 (52.6%) of the children was above 9 years. The mean and median age of the children were 3.33 and 4 years (range: 1 to 4 years).” The range seems incorrect if half of the children were > 9 years of age.
Page 6 “About 277(71.4%) of the respondents had household income level below <=500 Eth. Birr.” It will be good if the authors gave the equivalent in USD or Euros.

Why is religious affiliation important?
Page 7 “For those who missed a dose or more in the last 7 days, the common reasons were lack of medication (27.5%), child slept (25.5%) and forgetfulness to give the drugs (23.5%). (See Figure 2)” the authors need to explain what is meant by lack of medication- drug run out at home or pharmacy stock out or no transportation to go to hospital to refill meds? Also need to clarify forgetfulness, is this on the part of the caregiver or the child?
Page 7 “As shown in the above table, after controlling other variables, children whose parents
didn't paid fee for treatment were 61.3% less likely to adhere for ART than those who paid for their medication [OR= 0.387(95%CI: 162,0.924)]." The confidence interval here is different from what is reported in the abstract and table 4. It is missing a decimal point.

Other issues: please evaluate the duration of therapy for participants. What is the mean number of days on therapy? Is duration of treatment related to adherence?

Discussion

Page 8 “Clinical record review, virological and Immunological markers and psychological and medication related factors were assessed along with the caregiver characteristics to determine the predictors of adherence.” The authors did not report viral load.

Page 8 “This study found an estimated prevalence of adherence to antiretroviral treatment to be 363(93.1%) in 3 days and 339(86.9%) in 7 days recall period.” The authors should state that this is self reported adherence.

Page 8 “Adherence rate in other studies showed a prevalence of 26 %( 22).” Suggest the authors delete this sentence since the next sentence gives a range which is more appropriate.

Page 9 “In one study, fourteen (33%) caregivers had not disclosed the child’s HIV status to him or her, and they reported that the child did not suspect being HIV positive (40) …….. This finding should be recognized and further investigation is needed in this regard.” This study from Uganda appears to contradict the findings in this paper. The authors should summarize and clearly make the point. There is too much unnecessary detail.

Page 11 “This could be probably due to the cross-sectional nature of the Study unlike clinical trail, and follow up design since the data is collected at one point in time might be depicted as reason.” Do the authors have a better explanation for the observed difference with the literature? Need to work on the grammar also.

Page 11 “Despite the above limitations, the study had several strength including use of both qualitative and qualitative methods for triangulation, inclusion of several sites, use of more than one method of adherence assessment and inclusion of several variables.” This study used only one method to assess adherence- self report. There was no triangulation of methods.

Illustrations, tables and figures

Page 19 Figure 1 is not relevant to the results.

Page 19 Figure 2 need to clarify if the caregiver or child forgot, what does run out of medications mean?

Page 20 Table 1 add HIV disclosure status if available

Page 21. Table 2. Provider estimate of adherence is rated good, fair and poor (was this a visual analogue scale) and is compared to what was calculated based on the questionnaire? It will be useful to add data on viral load if available

Minor Essential Revisions:
1. Failure to define terms used e.g., HAART, MEMS, FA, ARV, write out names of medications before using abbreviations

2. More thorough editing and correction of spelling and grammatical errors would be useful.

**Level of interest:** An article whose findings are important to those with closely related research interests

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

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare I have no competing interest.