Reviewer’s report

Title: Determinants of antiretroviral adherence among HIV positive children and teenagers in rural Tanzania: A mixed methods study

Version: 1 Date: 21 October 2014

Reviewer: Werner Schimana

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Minor Essential Revisions

1. The finding that children living with both parents have a better adherence than those with one parent or children with no biological parent needs more attention. It would be good to know whether the finding might depend on the fact that both parents living might be associated to the fact that the parents were as well on treatment and hence treatment might be a family topic. Further the better adherence might actually be the expression of another fact. As treatment became only available in the past 10 years some children might have lost their parents early and are now taken care of by relatives but at the same time face typical adherence problems of teenagers. Do children with no parent alive have the same age distribution as those with one or with both parents a life?

2. For the quantitative part could you explain why children under 18 are only interviewed in presence of care takers. What about emancipated minor and the fact that many teenager between 13 and 18 years of age are attending clinic by themselves. (also mentioned in one of the focus group discussions). Is this a cause for refusal to show the drugs?

3. Please review the formula for adherence calculation as the daily number of days between pharmacy visits does not give you correct results for those taking tablets twice a day.

4. For the quantitative part could you explain why children under 18 are only interviewed in presence of care takers. What about emancipated minor and the fact that many teenager between 13 and 18 years of age are attending clinic by themselves. (also mentioned in one of the focus group discussions). Is this a cause for refusal to show the drugs?

5. The study was conducted end of 2011 and beginning of 2012 but the data cited in the introduction partially reflect years before the study period. Especially the number of children with HIV and being in need are outdated and not in line with UNICEF/ UNAIDS data. The authors may consider revision.

6. Does the exclusion of 7 children lead to a better adherence? May be the authors could consider to discuss this in short.

7. The version and recommendation of the national treatment guideline of Tanzania in place in 2011 are not mentioned.

8. The authors mention that adherence was lower among children who joined a
support group compared to those who never joined one. At the same time they recommend at the formation of peer support groups. Please explain.

9. How can the authors be sure that the question about visit of a traditional healer reflect the truth? Literature might suggest that the percentage of visiting the traditional healer and the clinic might actually be different. This could be discussed in more detail.

10. The discussion spends quite some time on elaborating the importance of disclosure for better adherence. This is not backed by the quantitative results in this study. This finding should be related to the discussion.

11. The authors state in the discussion that there was no food insecurity in the study area but one citation from the focus group states that there was no breakfast. Please explain.

12. The authors make several recommendations. One was that the health care providers should stress the importance of adherence. But from the presented results it seems more important that health care providers learn more about how explore factors which influence adherence rather than stressing the fact. They have clearly shown that the patients do not get the counselling and support they would want.

13. The recommendation about how stigma negatively leads to poor adherence might as well not yield the wanted result. Here activities are needed to reduce stigma in itself among teachers, students as well as the community at large.

14. Line 472 to 474 also are inconclusive as you formed three groups and not two groups.

Discretionary Revisions

Please consider that you talk about children when you address the agegroup 10 years and below and adolescents when you address the group of children above 10. Currently children is used for both but in terms of adherence they might actually be two different groups and separating them by these terms might give the paper more clarity.

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

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests.