Author’s response to reviews

Title: Ocular manifestation of HIV/AIDS and correlation with CD4+ cells count among adult HIV/AIDS patients in Jimma town, Ethiopia: a cross sectional study

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Author’s response to reviews: see over
To: Biomed Central Editorial Team

RE: MS: 1722936046901182 - Ocular manifestation of HIV/AIDS and correlation with CD4+ cells count among adult HIV/AIDS patients in Jimma town, Ethiopia: a cross sectional study

We would like to thank the reviewers for their precious time reviewing our manuscript and giving us constructive comments.

We reviewed and revised our manuscript based on the comments given. Below are the point-by-point response to the reviewers' comments/suggestions.

Reviewer# 1 (Sophia Pathai)

**Major compulsory revisions**

1. We used simple random sampling technique and this phrase is inserted into the text. We did not generate information on the gender, age, CD4 count distribution of the whole population as it was not our objective. The two clinics were included not because each clinic varied demographically, but to make the sample more representative of HIV/AIDS patients in the town.

2. The statement about "proportionate number" is for the two clinics. It is not for the HAART and Pre-HAART. The criteria used by the centers to initiate HAART are:
   a. CD4+ T cells count <250 cells /µl
   b. Viral load
   c. WHO stages

   The count of cells might be the same because after initiation of HAART, there will be rapid repopulation of T lymphocytes within the first year and then increase gradually (Alan et al, AIDS Research and Therapy, BMC). The mean duration of HAART in our patients was 27 months and this is sufficient for repopulation. However, this duration is not enough for functional maturity; this is the main factor in protection (referenced in the main document).

3. Pretest was done in 37 (10%) patients and some correction was made on the data collection format and approach. Otherwise no significant change was made in the methodology that warrants reporting.

4. The statement is a bit misleading and it is now rephrased. Correction is made by adding the response rate as 348 patients were the patients from which we were able to collect the data and 369 were the calculated sample size.

5. Comment accepted and the word 'about' is removed.

6. The explanation is the same as for comment number 2. Even if patients on HAART and not on HAART do have similar CD4+ count, the two patient populations will not have T lymphocyte with similar maturity and there for protection. Patient on HAART start with lower
CD4+ count as this is a criteria for initiating the therapy and even if the number can increase within a year, the functional maturity will be longer and they are still at risk.

7. The paragraph is modified by focusing on the adjusted odds ratio. Adjustment is also made for ART.

8. The reasons for us to incorporate blepharitis as an ocular manifestation were that we found cases of blepharitis in the study subjects and there are supportive reports in the previous studies (Biswas et al, Indian J Ophthalmol 1997 | Volume : 45 | Issue : 4 | Page : 233-234; Soumendra S, Malays J Med Sci. 2010 Jan-Mar; 17 (1): 12–16). Every finding that is reported as an ocular manifestation of HIV/AIDS are the findings of epidemiologic studies. And we think it to be prudent to report it.

9. Sorry for not including it in the method section. The diagnosis was made clinically and histopathologically. This is incorporated into the text.

10. We thought the numbers were small to mention the different cranial nerves. We corrected by mentioning the name of the nerves.

11. Comment is incorporated by inserting CMV retinitis into table 6.

12. Sorry, the sentence seems a bit ambiguous and we have rewritten it. The discussion was not about the immune reconstitution syndrome, rather it was about functional maturity of the newly formed lymphocytes after initiation of HAART.

13. An additional column is inserted in table 3 which states adjusted odds ratio.

Minor essential revisions.

1. The percentage and odds ratio are reduced to 2 decimal places.
2. $X^2$ is deleted from the tables.
3. Same as comment 1
4. As it was not our objective we did not gather information on this subject.
5. Comment is incorporated.

Discretionary revision

1. We feel that the 7 tables are not much to reduce the number and we prefer to keep them in the manuscript

Reviewer# 2 (Rupesh Agrawal)

Introduction section

1. Reference is cited for the statement.
2. The statement which says “on the scene which is a major cause of blindness” is substituted by “as a cause of concern related to blindness”.
3. Period indicated in a bracket.

Method section

4. The two month period was sufficient for the data collection. This is a cross sectional study and there was no need for followup. The HAART clinic is also located adjacent to Ophthalmology department and hence there was no need for resource mobilization. The HAART clinics are well organized and it was not difficult to get the patients. Moreover, the staffs of the clinics were helpful during the data collection.
5. There were 551 patients in the pediatric age group. We excluded this group of patients for the reason mentioned. The demography of the population was as follows; the male: female
ratio 1.9:1, pediatric population= 551, adult population =5692. As it was not the aim of this study, we did not include the demography of the whole patient population but the study subjects.

6. 348 is the total number of patients from whom we were able to collect data from the calculated sample size of 369 with a response rate of 94%. The number of patients on HAART and not on HAART in the calculated sample size were 185 and 184 respectively. This is amended as correction in the text.

**Result section**

7. The statement we made is a bit confusing and correction is made by adding “with a response rate of 94%.

8. According to this study the female to male ratio was 3:1. The female to male ratio of our source population (total adult patients with HIV/AIDS in the two clinics) was 1.9:1 and the female to male ratio of patients with HIV/AIDS in the whole country (Ethiopia) is 2:1 as reported by the world bank and the document can be accessed by the following website; siteresources.worldbank.org/INTHIVAIDS/Resources/375798-1103037153392/Ethiopiasynthesisfinal.pdf accessed on April 17, 2012. Our finding is not significantly different from those findings and the difference could be due to sampling error.

9. We felt that more elaboration is needed on this issue: The patients were/are followed and treated at HAART clinics by the clinic staff. Our objective was to evaluate ocular manifestation among patients with HIV/AIDS in both population groups (on HAART, not on HAART). We did not assess the regimen they were taking as it was not our objective. We can provide the information, if need be, from the HAART clinics.

10. To initiate therapy, the HAART clinics use criteria which is set by WHO. The criteria uses parameters like, CD4+T cells count, viral load, and WHO stage of the disease. We did not do any form of intervention, but assessed the ocular manifestation among the patient population.

11. The information we mentioned is about patients with ocular manifestation in relation to CD4+ T cell count. It was not about patients with a CD4+ T cell count and HAART status. There is no statement in the sentence which talks about HAART. Even then newly diagnosed patients with a low CD4+ cell count may not be on HAART before they are enrolled into the system.

12. The analysis was done for patients with a CD4+ cell count of less 200 cells/µl. There was no statistically significant difference between those on HAART and not on HAART with respect to the ocular manifestation (p=0. 099) in this patient group. HAART is not the proximate variable for ocular manifestation, rather it is the CD4+ count which is the proximate variable. This is included at the end of the paragraph immediately above the comment.

13. Corrected as HAART

14. The posterior segment manifestation noted include Toxoplasmosis retinochoroiditis, HIV retinopathy and others which were mentioned in the same paragraph and found in the tables.

15. The definition we used is WHO definition of blindness which is presenting visual acuity of <3/60 in either of the eyes (table 7).

16. The causes for central retinal vein occlusion cannot be identified with absolute certainty. But risk factors can be identified. Our patient did not have other risk factors other than

**Discussion section**
17. Similar clarification as for comment number 10. The patients who were not on HAART were not put on HAART because they did not fulfil the criteria for initiation of HAART. Our study was not an Interventional study and it was not us who initiate or follow in the clinic. The decision is made by HAART clinic staff following the guideline. We made just cross-section evaluation of the patients.
18. Similar clarification as for comment number 10 and 17. There is a guideline which is used by HAART clinics throughout the country. Once patients are put on HAART, they will continue forever. There is no need for stopping the medications. The other is aqueous study is not part of the parameter to initiate the medications.

**Conclusion section**
19. Here there is misunderstanding. The prevalence of ocular manifestation among male population (33.3%) is greater than the prevalence in the female population (22.5%) (table 3).
20. Yes there were patients with CD4+ cells of <100 and <50 but small percentage.