Author’s response to reviews

Title: Prevalence and predictors of Pap smear cervical epithelial cell abnormality among HIV-positive and negative women attending gynecological examination in cervical cancer screening unit at Debre Markos referral hospital, East Gojjam, Northwest Ethiopia

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Author's response to reviews:

Dear Editors

The authors would like to acknowledge the Editor and Reviewers for your careful review of our manuscript and providing very valuable comments and suggestion to enrich the quality of the manuscript. The following responses have been prepared to address all of the reviewers’ comments in a point–by-point fashion.

Reviewer: Pam Michelow

Major compulsory revisions:

1. The term "ASCH" has been included in the introduction but has been omitted from the abstract, results and discussion. As "ASCH" is an integral part of the Bethesda System for reporting cervical cytology, this term needs to be included in the whole article. If the authors have combined the categories "ASCH and HSIL", this needs to be clearly stated in the text (and abstract) and the reasons for this justified.

Response: As previously indicated, we didn’t observe the category “ASCH” in our cases and that is why we omitted it from the document. But now we reported it zero (0.0%) in all parts of the document.

2. The sentence in "On a global level, 75% of women manifesting abnormal cervical cytology……likely to develop cervical cancer". This figure seems too high. Please check this is correct AND provide a reference for this.

Response: Thank you for your critical observation. It is editorial problem, 75% is not for cervical cancer rather it is for abnormal cervical cytology. “On a global level, 75% of women has abnormal cervical cytology at least once in their life time which may progress to cervical cancer.”

3. All women attending at Debre Markos referral hospital during the study period for any gynecological problem were eligible for the study”. By its name, the
hospital is a referral hospital. How are woman referred to Debre Markos referral hospital? Do they have a pap smear at the primary health facility that they are referred from? This may cause bias in the results.

Response: As we indicated previously, though the name of the hospital is referral, everyone can get service from the hospital directly. There is no specific referral system but any case which is beyond the capacity of peripheral health system facilities will be referred to the hospital. There is no cervical cancer screening center at the primary health facility. Even at the Debre Markos hospital routine cervical cancer screening procedure is based on Visual Inspection of the cervix with Acetic acid and Pap smear was done for this research purpose only. We mentioned this in the document too.

4. Were any women on antiretroviral therapy? If so, it would be relevant to determine ECA in women receiving and not receiving antiretroviral therapy. If this data was not collected, it should be stated and the reason this data was not collected provided.

Response: Authors really would like to acknowledge the reviewer for your critical concern. Although HIV+ women were included in the study, unfortunately we didn’t collect ART information. We only focused on the effect of HIV-positivity and their immune response status based on CD4 cells level. We also mentioned this in the main document.

5. There are still some spelling and grammatical errors in the text that require correction.

Response: it is thoroughly edited

Reviewer: Hannah Leslie

Major compulsory revisions

1) The authors chose not to revise their analytic strategy to reflect the sampling probabilities for HIV+ and HIV- women. The additional information on sampling percents for HIV+ and HIV- women is helpful, and it seems like it would not have been difficult for the authors to include inverse sampling weights in the analysis to make the results more representative. However, with the results as they are, the authors should note in the discussion that the results are not fully generalizable even to the population of women coming to the hospital due to the stratified sampling and unweighted analysis.

Response: As it is stated in the method part of the study, the aim of the study is to describe the comparative prevalence of cervical ECA among HIV+ and HIV- women, we elaborated and strengthened this issue throughout the document.

2) The new limitations section notes that the hospital population 'may' not be representative of the general population. The authors also state that 55% of women presenting are HIV+, while ~500,000 Ethiopian women (<2%) are HIV+. They should provide a stronger statement that the hospital population is certainly not representative given this great discrepancy in HIV prevalence.

Response: The reported 197 (50.4%) HIV positivity is not the prevalence of HIV in the hospital rather we mentioned this to indicate the proportion of study
participants included in the study by their HIV status. Hence, we believe that the result of this study can also represent the hospital population (the result from HIV positive for HIV positive hospital clients and from HIV-negative for HIV negative too).

Minor essential revisions

1) A number of English-language errors remain in the document; the third sentence of the abstract for example has words out of order. The new paragraph on the Bethesda system in the background section includes a run-on sentence on the classifications that should be clarified or broken into several sentences. The abbreviation STI is typically used for sexually transmitted infection, not sexual transmitted infection. This is not a complete listing of the errors; a comprehensive final edit is recommended.

Response: The authors thanks the reviewer for your salient observation. The document is thoroughly edited

Discretionary revisions

1) I would recommend adding a phrase on the stratified sampling by HIV status to the abstract (in lieu of the information on SPSS, which is not necessary for the abstract) and also considering adding the phrase 'non-representative' in advance of 'study' in either the results or the conclusion section.

Response: we indicate as stratified sampling by HIV status was used to include study subjects from both HIV+ and HIV- patients.

2) It would be useful to comment on why this patient population is so different from the national population in terms of HIV prevalence - is this region likely to have much higher HIV prevalence than others? What other reasons might contribute to such a high HIV prevalence in the hospital population?

Response: It is not due to unusual increase in the prevalence of HIV in the hospital rather it is the deliberate inclusion of high number of HIV+ patients to compare ECA prevalence between HIV- and HIV+ women.