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Submission Manuscript NO: 87211

Article title: Systematic review and meta-analysis of seroprevalence of HIV serological markers among pregnant women in Africa, 1984-2020.

The Editor-in-Chief
World Journal of Critical Care Medicine

Dear Editor,

We are delighted that the *World Journal of Critical Care Medicine* will consider publication of our review, pending satisfactory revisions as suggested by the Reviewers.

We have given careful consideration to the Reviewer's comments and have done our best to address them all.

In green text in the response to the Reviewers comment document is a point-by-point explanation of how we have addressed the concerns and revised our manuscript. We have enclosed
1. Point-by-point response letter
2. Track-changes version of our revised manuscript
3. A clean version of our revised manuscript

We thank the Reviewers for their thoughtful comments. With these revisions, we feel the paper has been substantially improved. We hope it will receive favorable consideration for publication in the *WJCCM*.

Please do not hesitate to contact us should you have any additional questions or comments.

Kind regards,

Sebastien KENMOE

On behalf of the co-authors

Editor comments

1.Thank you for providing the PowerPoint file and submitting it on the system as "Manuscript No.-Figures.ppt". Isee that all figures are not decomposable. Please provide the decomposable figure 1，figure 3 of figures, whoseparts are all movable and editable, organize them into a PowerPoint file, and submit as "Manuscript No. -Figures.ppt" on the system, we need to edit the words in the figures. Note: Including the arrows, horizontal andvertical titles and numbering of the figures need to be editable and movable.----

Response: Thank you, we corrected as proposed

2.Please provide point to pointanswer to all reviewers. Authors should revise their article according to the reviewers' comments/suggestions andprovide point-by-point responses to each in a letter that is to accompany their resubmission.---

Response: See response to reviewer below

3.Please add DOIsfor all references.---

Response: Some journals from which we sourced articles for this manuscript do not assign DOIs to their publications. There are instances of page web where publications did not have DOIs.

4.Please provide citations for the references that supplemenly Table 4.

Response: We added the reference list.

Reviewer #1 :

Scientific Quality: Grade C (Good)
Language Quality: Grade B (Minor language polishing)
Conclusion: Major revision
Specific Comments to Authors: Please see the attached file.
Response: Thank you, we edited the manuscript accordingly.

Major comments

1. Pooling the data of all studies and presenting them as the overall prevalence of HIV in Africa, creating little interest for readers. As the authors declared in the Introduction section, a significant reduction in HIV prevalence has been reported among the general population during the 2010s. So, it is essential to assess the significant changes in HIV rates over study time. They need to perform a meta-regression analysis to show any significant trends in HIV rates among the

studied population. Alternatively, they might conduct a subgroup analysis for the time range, for example, before 2001, 2001 – 2015, and 2016 – 2020. I suggest the last period because global health sector strategies on HIV were approved by WHO in 2016 to guide the activities during 2016-2021.

Response: Thank you for your feedback. We have conducted both subgroup analyses (Table 1) and a meta-regression (Supplementary table 6) to observe trends in HIV prevalence across the studied period.

2. A sensitivity analysis is applied when the eligibility of some studies is uncertain. So, the metaanalysis will include only well-known eligible studies. Hence, it would be better if the authors included confounders such as study design or degree of RoB in the subgroup analyses instead of sensitivity analysis for cross-sectional studies and surveys with low RoB.

Response: Thanks for your comment. we added it in Table 1.

3. The subgroup analysis should also be included for 'studies sample size', for example, < 100 and >= 100.

Response: Thanks for your comment. we added it in Table 1.

4. Performing meta-regression would be helpful to explore the factors associated with high heterogeneity.

Response: Thanks, we have corrected as suggested (Supplementary table 6).

5. The authors should provide the newest data on HIV epidemiology in Africa in the Introduction section. They can refer to the last WHO/UNAIDS global reports on HIV.

Response: thanks, we added as suggested

6. 'Supplementary Table 6' should be transferred to the main text as 'Table 1'. Moreover, the 'Meta-analysis' part of the Results section could be shortened due to repeated data in this table and the related figures.

Response: Thanks, we have corrected as suggested.

7. The 'Discussion' section is poorly written:

Response: Thanks, we have corrected as suggested.

8. Not searching for grey literature should be expressed as a review limitation at the end of the

Discussion.

Response: Thanks, we have corrected as suggested.

Minor comments

1. Please add the following keywords at the end of the Abstract: Prevalence, Review, Metaanalysis.

Response: thanks, we added as suggested

2. In line 143, please define the exact date of the studies inclusion (February 2023). Also, it would be best to tell us how many countries are located in Africa.

Response: thanks, we correct it like that in 54 African countries up to February 2023

3. Could you explain the rationale for choosing studies with more than 10 samples?

Response: Thank you for your comment. The rationale for selecting studies with more than 10 samples is rooted in statistical robustness and reliability. Studies with very small sample sizes are more prone to sampling error, which can produce results that are not representative of the broader population.

4. In line 196, please change 'iv' to 'iii'.

Response: Thanks, we added as suggested

5. The part of the 'Selection of included articles' (lines 210–219) should be shortened due to repeated data in Figure 1.

Response: Thanks for your comment. We shortened as suggested.

6. In the part of the 'Article search strategy' (lines 156–157), the authors stated that "The reference lists of all relevant articles were reviewed to complete searches in the bibliographic database", but they did not refer to any document retrieved through this manual cross-checking in the Results section.

Response: Thanks for your comment. We did not find any supplemental documents in the reference lists of relevant articles as indicated in Fig 1.

7. In the 'Materials and Method' section (line 197), the authors declared that 'educational level' was considered a covariate in subgroup analysis. However, I could not find such analysis neither in the text nor in the tables.

Response: Thanks for your comment. we added it in Table 1.

8. In the 'Results section', please define the total number (and range) of participants recruited by the selected studies (line 225). Furthermore, please explain how many African countries were included in the final analysis (line 226).

Response: Edited as suggested. The selected studies encompassed a total of 1,374,392 participants, with individual studies ranging from 11 to 243,302 participants. The studies were conducted in 37 African countries.

9. Please describe 'low and moderate RoB' in line 236.

Response: Thanks for your comment. The risk of bias is determined from the calculation of a score. This score allows studies to be classified into low, moderate and high as described in supplementary Table 3

10. I strongly recommend that Table 1 be removed because of the complete data given in the text (lines 239–246).

Response: Thanks for your comment. We remove it

11. I think only one subtitle of 'Findings of subgroup analyses' would be better than multiple subtitles such as 'Meta-analysis by UN regions, HIV characteristics, women's characteristics'.

Response: Thanks, we have corrected as suggested

12. In Figure 1, you showed that 17 full-text articles were excluded due to duplication. You removed duplicates before in the screening step. Do you mean 'overlapping studies'?

Response: Thanks for your comment, these are exactly the studies where data overlapping. We have corrected in Fig 1 as overlapping studies rather than duplicate.

13. Different colors were used to show the same percentage ranges in the three parts of Figure 3. Could you please redesign it?

Response: Thanks, we have redesigned it and use the same colours for the same percentage ranges

14. In 'Supplementary Table 1', please clarify which page item 11 (Data items) was reported on.

The data for item 11 are among the variables listed in the Data extraction from the included articles section and in table 1.

15. In 'Supplementary Table 2', please replace #3 with #4 in the two last rows. Also, change #4 to #5 in the last row.

Response: Thanks, we have corrected as suggested

16. In the PDF file of the manuscript, the references were listed several times. Please remove the repeated list!

Response: Thanks, we have corrected as suggested