Author’s response to reviews

Title: The prevalence of tuberculosis among prisoners in Ethiopia: A systematic review and meta-analysis of published studies

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Dear editors

Achieves of Public Health

We thank the reviewers for their insightful comments, which have certainly improved the quality of our paper. Below, we provide a point-by-point responses to the reviewer’s comments. We hope you will find the paper suitable for publication and we look forward to hearing from you in the earliest convenience.

With regards

Addisu Melese

On the behalf of the authors
Responses to reviewer’s comments

Reviewer #1: The authors responded well to the comments raised by the reviewer. However, there are still several methodological issues in this manuscript that should be resolved:

- A revision of the English language is necessary, especially for the text that has been revised.

Response: The language was tried to be scientifically coherent and clear

- The title should specify that this SR and MA is about "prevalence" of tuberculosis.

Response: Accepted and added (as seen in the title above)

- It is not clear why some terms in the search strategy are written in italic.

Response: The italic was for the scientific nomenclature of bacteria. It is recommended to write the genus and species names of bacteria in italic when used in texts.

- Still regarding this search strategy, authors simply wrote terms that they used. A complete search strategy should be included for at least one of the databases used.

Response: Added for the PubMed database and it is: ("tuberculosis"[MeSH Terms] OR "tuberculosis"[All Fields]) OR TB[All Fields] OR MTB[All Fields] OR ("mycobacterium tuberculosis"[MeSH Terms] OR ("mycobacterium"[All Fields] AND "tuberculosis"[All Fields])) OR "mycobacterium tuberculosis"[All Fields]) AND ("prisons"[MeSH Terms] OR "prisons"[All Fields] OR "prison"[All Fields]) OR ("prisoners"[MeSH Terms] OR "prisoners"[All Fields]) OR ("prisoners"[MeSH Terms] OR "prisoners"[All Fields]) OR ("prison"[All Fields] AND "inmates"[All Fields]) OR "prison inmates"[All Fields]) AND ("ethiopia"[MeSH Terms] OR "ethiopia"[All Fields])

- Please change the sentence "hand search was also done from identified articles" by "the bibliographies of relevant articles were also hand searched".

Response: Accepted and done as suggested

- The quality assessment of studies is not clear at all.
1) Please describe the quality assessment tool used in the methodology.

Response: The quality assessment tool was adapted from the “Health states Quality scale” and described as requested.

2) Authors decided to exclude from the MA studies having 50% and above quality score - what is the rational for this choice? Is this a valid tool with specific cut-offs reported in the literature? Moreover, the results were not reported in the results part. Please specify that all studies had a quality score above 0.5 and therefore, none of these studies were excluded.

Response: I think you are to say below 50%; otherwise we have included articles having 50% and above quality score using the “Health states Quality scale”. With the assumption that articles having the minimum positive value have good quality and all the minimum positive values are summed up to be six; we consider articles having 50% and above quality score (six out of 12 maximum quality score in the modified Ottawa-Newcastle quality assessment scale) are good in their quality and included in the analysis. Concerning the results; some of the results are included in the results section and the title “pooled prevalence of TB among prisoners” is under the results section and reported under it. In addition; all studies included based on the inclusion criteria have 0.5 and above quality score and none of the studies were excluded by the quality score.

3) A better way to deal with quality is to perform subgroup analyses based on the median quality score of studies. All of the above raised points should be specified and discussed.

Response: Subgroup analysis is commonly done to see if there is a difference in prevalence among different groups. With this point, we tried to see the difference in the prevalence of TB in subgroups based on the laboratory tests used during the survey. The quality is usually done by using checklists from valid quality assessment tools. Of these tools, the “Health states Quality” assessment tool and its scale is used in our study.

- In the data analysis part, please remove "results were presented following PRISMA reporting guidelines”. It has already been said in the beginning of methods and this sentence is wrongly placed.

Response: Agreed and removed as suggested.

- All definitions should be placed prior to the paragraph about statistical analyses.
- In the results, data about subgroup analyses are not clear. What is the p-value (p<0.001) about? Moreover, heterogeneity is still present in these subgroup analyses. Authors should think about other subgroup analyses in order to identify the source of heterogeneity. It is also not clear why authors decided to remove all other subgroup analyses from the manuscript (Table 3).

Response: The p-value is about the heterogeneity. Heterogeneity can also present in subgroups as heterogeneity comes from not by chance rather due to variations among studies. The source of heterogeneity can come from different sources (such as sample size, sampling method, diagnostic method,.....) from different studies and this is checked by sensitivity analysis that which studies are the prime determinants of heterogeneity and effect sizes for the pooled prevalence. The other subgroup analyses were removed by recommendations from previous reviewers that we could not get scientific criteria to conduct the subgroup analysis (no cut of values from the literature and elsewhere). So we agreed to remove rather than conducting the subgroup analysis by random. And subgroup analysis was done only for the laboratory tests used during the survey of included studies.

- Authors should present more detailed results about sensitivity analyses and discuss about that in the discussion section.

Response: Done as suggested. We included clarifications in the discussion