Reviewer’s report

Title: Prevalence rate of undiagnosed Tuberculosis in the community in Ethiopia from 2001-2014: Systematic Review and Meta-analysis

Version: 0 Date: 11 Apr 2019

Reviewer: Olwenn Martin

Reviewer’s report:

Dear authors,

I enjoyed reading this manuscript describing clearly the systematic review and meta-analysis process to synthesise evidence on a topic of major importance, that of undiagnosed tuberculosis in Ethiopia.

I am satisfied to recommend publication pending some minor modifications, enumerated below.

The background section is rather short. Some of the material introduced in the discussion should be mentioned already in the background and introduction. This would further improve clarity regarading some methodological aspects described in the following section. Specifically,

- Page 9 L27-32, issues regarding differences in the type of microscopy tests used to diagnose TB should be introduced in the background section, then be recalled to discuss results. (Moreover, check the grammar of this specific sentence)

- Page 9 L44-49, information about the most common source of infection should also be given in the background section, particularly as it underlies the decision to restrict literature to those that considered patients >14 years old.

- Page 9 L49-56, the surveillance program should also be described in the background. This is particularly important as a justification for omitting the grey literature from the systematic review is currently missing.

- The clarity of manuscript would also be improved if a short paragraph describing the informative value and differences between the various prevalence estimates considered throughout the results and discussion sections could be clearly laid out in the background section.

The method section is succinct but clear and the authors should be praised for striving to adhere to the PRISMA guidelines. I would nonetheless recommend the following additions;

- Clearly state the objective of your systematic review and include a PICO statement.
The literature search strategy is only rather vaguely described and it is difficult to judge how inclusive it may have been. Please add the full search algorithms employed for a database such as Pubmed/MEDline. Justify why the grey literature was not included in the search.

Data extraction. If possible, please include the results of any piloting of the pre-tested form as well as the results of the extraction in supplementary information.

Quality assessment: please reference the quality appraisal method you have used. As before, I would suggest to include the results of the quality appraisal in the pre-tested form in supplementary information. It is unclear, from the short paragraph included in the method section and flow diagram, whether any eligible studies were excluded due to poor quality. Could you please clarify this point?

For the results section, forest plots are mentioned in the abstract and elsewhere in the main text of the manuscript, yet not presented. Please add the forest plots as figures, as well as funnel plots if possible when discussing potential publication bias. Heterogeneity itself is an important results of meta-analytic procedures and the potential sources of heterogeneity between studies are discussed to some extent in the discussion section, but do probably deserve more detailed analysis. The number of eligible studies is limited but if any subgroup or sensitivity analyses have been carried out to explore sources of heterogeneity, these should be at best described at least mentioned.

The clarity of the discussion section could be improved by being clearly structured according to different topics on interest, e.g. comparison with other regions, limitations of the current systematic review, sources of heterogeneity between studies etc.

The quality of the English and grammar ensures easy comprehension throughout. I have only picked up on a small number of typographic errors or instances when the grammar hindered comprehension:

- P4 L39, "This review sets..."

- P5 L24 "Studies were selected for this review if conducted in Ethiopia..."

- Correct 'Cochran' to 'Cochrane' throughout

- P8 L39-44, rephrase "The weighted mean ratio of actively diagnosed bacteriologically confirmed tuberculosis to passively detect TB patients on anti TB treatment by the local health system was 2.3 (95% CI, 0.42-4.1)"

- P9 L27-32, correct the grammar of "This might be due to the type of microscopy tests used to diagnose TB while all but one used ZN microscopy which has low sensitivity compared to florescence microscopy in this review included"
P9 L39-44, rephrase to improve clarity of "The relative lower pooled prevalence rate in our study could also be attributed for the large size of eligible individuals participated in the study which was 237,648 individuals from the nine studies". I am assuming that you are referring to the size of the eligible studies rather than individuals, as in the numbers of individuals included in eligible studies?

P10 L17, I am assuming that prevalence is per 100,000?

P10 L34-36, "start ant- Tuberculosis treatment", typo?

P10 L41-46, "In contrast, a study in South African revealed, nine cases was detected passively compared to two cases detected by active case finding (30).", South Africa and "nine cases were detected"

P10 L54-56, "A patient pass way analysis in Ethiopia", typo?

Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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