Reviewer’s report

Title: Tuberculosis Infectious pool and associated factors in East Gojjam Zone, Northwest Ethiopia

Version: 0 Date: 04 Sep 2019

Reviewer: Nathan Kapata

Reviewer's report:

This is a well written manuscript and quite interesting to read. It addresses one of the most important areas in TB control, which is understanding the infectious pool of the diseases in order to be able to address specific areas that need to be targeted for eventual TB control and subsequent elimination. I have a few observations on this manuscript and I have outlined a few concerns below:

1. In the Background section, paragraph 3, first sentence, line 30 (page 3): The paragraph that starts, "Estimating the size of TB infectious pool is vital to know the burden and monitor TB control program ............," the authors seem to imply that only using the measures applied in the cited articles in this part of the paragraph will give better estimates to measuring the TB burden. They further go ahead to indicate that the methods of relying on case notifications and TB prevalence surveys that are currently used are misleading to decision makers and other agencies. Can the authors rephrase that paragraph to be clear as to what they intend to mean? Although case notifications and prevalence surveys have some limitations in estimating the burden of TB in low resource settings, they still give good estimates for decision making purposes and devising strategic interventions for TB control.

2. Within the same paragraph three (page 3), the last sentence that starts as, "This will help to periodical......," may be edited to read, "This will help to periodically......"

3. In the Methods section, Data processing and analysis, paragraph 2, lines 55-57 (page 7): The sentence that reads, "In this study, we determined the length of infectiousness after the initiation of anti-TB drugs using sputum smear microscopy" - Can the authors explain how smear microscopy was done? was it AAFB? Microscopy as well as Xpert MTB/RIF picks up dead bacilli as well, does this imply those cases were also considered infectious? Microscopy will also pick up non-tuberculous mycobacteria (NTMs), was that considered infectious as well?

4. In the Methods section (page 8): The authors had indicated the challenges and unreliability of data due poor reporting and recording in low resource settings, however, the assumptions for
determining the "TB management time" is based on these same records. Can the authors clearly state this limitation using this method?

5. The discussion section needs to be improved. The authors may focus more on findings of this current study to inform on the TB Infectious pool and associated factors in East Gojjam zone. In it's current form I am unable to assess if the methods and conclusions are adequate and appropriate.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Unable to assess

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Unable to assess

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I am able to assess the statistics

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