Reviewer's report

Title: Latent Tuberculosis Infection and Associated Risk Indicators in Pastoral Communities in Southern Ethiopia: A Community Based Cross-sectional Study

Version: 0 Date: 19 Oct 2017

Reviewer: Michael Lauzardo

Reviewer's report:

The authors of the manuscript, "Latent tuberculosis infection and associated risk indicators in South Omo Pastoral communities, South Ethiopia: Community based cross-sectional study", are to be commended for a fine work that adds to the medical literature. Although in a limited geographic setting that may limit the generalizability of the authors' findings, there is still significant value to the work and it adds to our understanding of latent TB infection (LTBI) in rural and pastoral communities. There are a few points that can be addressed that I believe will strengthen the paper.

General Comments: The study design chosen for the study was appropriate to answer the study question. Appropriate ethical approval was obtained but the lack of ethical board approval for HIV testing is a significant limitation not only of the generalizability of the findings but also potentially of the validity of the findings since a high background rate of HIV may result in a falsely low rate of LTBI due to false negative results of the IGRA among HIV infected. Overall the quality of the writing is very good with only minor errors noted. The charts and figures included are helpful with the exception of Figure 2.

Specific Comments: In the section labeled as "Level of IFN gamma response to MTBC specific antigens" and references Figure 2, I am not certain why the authors chose to present their data in this manner. It may be due to my ignorance of other ways to assess validity of QUANTIFERON results, but frequently it is presented as the percentage of indeterminant results obtained. The means of the IFN responses could cover up a large number of indeterminant results which is the standard by which most TB programs validate the results of Quantiferon in an operational/clinical setting (Lemp et al PLoS One. 2017 May 17;12(5), Kordy et al Pediatr Infect Dis J. 2017 Aug 2.). It would be helpful to know the actual indeterminate rate as calculated by the manufacturer's instructions rather than have the mean IFN gamma responses as the sole means to determine the quality of the results. Similarly but less importantly, there is no mention of the actual results of the TB antigen minus the nil. Were the positives "low positives" or were the TB antigen minus nil results very high? Likewise, some clarification as to reasoning behind the paragraph of the results section labeled "Assessment of socio-demographic and medical data on study participants in the context of the INF gamma response to MTBC specific antigens",
would be helpful. I am not sure what role phenotypic variables have on assessing the quality of the interferon gamma results.

Once again, I think the authors did a great job with this very well-designed study. Addressing some of the analytical questions above will provide some important clarifications so that this paper can provide further insight into next steps in addressing LTBI in high TB incidence communities with difficult to reach populations.

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

Yes

**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.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
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I am able to assess the statistics

**Quality of written English**
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Needs some language corrections before being published


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