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: 03 Oct 2017

Reviewer: Judith Bruchfeld

Reviewer's report:

This study describes the prevalence of LTBI in a pastoral population in Southern Ethiopia. The study has merits and the subject is pertinent to the WHO plan of TB elimination but due to flaws in study design there are important limitations which preclude some of the conclusions drawn.

1. One important limitation is the definition of latent TB and how this definition is then used in the study design. The definition of latent TB is given in the background of the manuscript line 34 as "the presence of M. tuberculosis in the body without signs and symptoms, or radiographic or bacteriologic evidence for the presence of TB."

This definition of latent TB is somewhat confusing and should be rephrased according to e.g. Erkens et al. Eur Respir J 2010; 36: 925-949 "Latent infection with M. tuberculosis" is usually defined as presumptive infection with M. tuberculosis complex, evidenced by a "positive" tuberculin skin test reaction and/or a positive interferon-c release assay (IGRA), without any sign of clinically or radiologically manifest disease."

2. Screening for latent TB was performed by IGRA and showing a rather high positivity rate of more than 50%. However positive individuals were screened only for TB symptoms but not further examined with chest radiography to exclude active disease. This is not on line with the definition of latent TB. Could the high IGRA positivity rate be due to concomitant undiagnosed active TB? This should be addressed both regarding the study design, results and discussion sections, i.e. the high IGRA positivity rate could be due to both latent and active TB. Could undiagnosed active TB have been unevenly distributed in the study population e.g. by gender and therefore affecting results by logistic regression?

3. What was the distribution of positive IGRA results, that is what proportion were close to cut-off or well above cut-off? There is an increasing debate regarding the variability around cut-off due to other reasons than biological. If values close to cut-off were excluded, were results obtained by logistic regression affected?
4. Somewhat surprising were the results linking IGRA positivity to the ingestion of raw meat. This should be further elaborated. Could there be confounders not detected? The authors present an hypothesis that "the association of LTBI with raw meat consumption may reflect potential zoonotic transmission". What transmission do they have in mind? The Mtb specific antigens in the IGRA is not present in M bovis and are only present in a few environmental mycobacteria.

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

No

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

No

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

Unable to assess

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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

Needs some language corrections before being published
Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors’ responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal