Reviewer’s report

Title: Genotyping and Drug Susceptibility Testing of Mycobacterial Isolates from Population based Tuberculosis Prevalence Survey in Ghana

Version: 0 Date: 01 May 2017

Reviewer: Mahmud Wasim Hanif

Reviewer's report:

Authors have chosen a nice topic and also worked hard to come to a conclusion. But entire description have been mixed up which hinders scope of the study. In the study, data regarding MTBC & NTM have been pooled together. It would be better if both the data are separately described so that readership will understand it better.

Few suggestions have been proposed, if applied, will certainly strengthen the manuscript.

Title

1. Genotyping and Drug Susceptibility Testing of Mycobacterial Isolates from Population based Tuberculosis Prevalence Survey in Ghana

Comment: The title should be reframed omitting the words Population based Tuberculosis Prevalence Survey.

Method section

1. In line no. 80, it is mentioned that 361 culture isolates including MTBC & NTM were taken for the study.

Comment: Detailed procedure regarding how there identification has been done is not mentioned in the methodology.

2. In line no. 95, it was mentioned that all the assays were run according to the manufacturer's instructions.

Comment: (a) DNA extraction procedure was not adopted as per the kit manufacturer's instructions. (b) Detailed description of the procedure adopted is not given.
3. In line no. 96, it was mentioned that there were four different kits used.

Comment: Description given for only one method: Genotype MTBDRplus. Brief description to be given about the use of other kits also.

Result section

1. In line no. 138, A total of 361 mycobacterial isolates consisting of 165 (45.7%) MTBC and 196 (54.3%) NTM was described.

Comment: Description to be given as how grouping of MTBC and NTM done.

2. In line no. 138, it is mentioned that percentage of NTM is 54.3%.
Comment: Percentage of NTM found was quite high; denominator used for calculation is not appropriate.

Discussion section

1. In line no. 192, percentage of M. africanum (2.4%) was very lower than what was reported worldwide.
Comment: This data has no significance to the study.

2. In line no. 204 & 205, the observed rate of MDR is 6.7% which is higher than the rate reported earlier.
Comment: This statement is not appropriate as the sample size is too low (N=161) to calculate the rate of MDR.

3. In line no. 216 & 217, it was mentioned that, the remaining unidentified NTM species (39%) could be other acid fast gram positive bacteria whose correct identification was beyond the scope of the assays used.

Comment:

(a) In Methodology section, no such process description was given whether these were actually identified as gram positive bacteria. (b) This means large number of NTM species were not identified (39%) shows limitations of the study.
Conclusion section

1. In line no. 238, it was mentioned that, Diverse species of NTM were found in sputum specimens from presumptive TB cases in Ghana.

Comment: This is a generalised statement and is not derived from the data of the study.

Moreover it was mentioned in the study design that only positive culture isolates were used not direct specimens.

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.

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?
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

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Please indicate the quality of language in the manuscript:

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