Author's response to reviews

Title: Drug Resistance Patterns of Mycobacterium Tuberculosis Complex and Associated Factors among Retreatment Cases around Jimma, Southwest Ethiopia

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Version: 2 Date: 13 April 2015

Author's response to reviews: see over
To: BMC Public Health

Subject: Re-submission of original Article

Dear Editors,

We, Kedir Abdella, Ketema Abdissa, Wakjira Kebede and Gemeda Abebe, are re-submitting our Original article titled “Drug Resistance Patterns of Mycobacterium Tuberculosis Complex and Associated Factors among Retreatment Cases around Jimma, Southwest Ethiopia” to BMC Public Health for possible publication. We have addressed the reviewers comments line by line in the following pages. We believe that BMC Public Health is the right journal to disseminate our findings to researchers and policy makers timely.

Regards,

Gemeda Abebe (PhD)

Corresponding author.
Author's response to reviews:

Dear editor

We appreciate the reviewers for the constructive comments which we have used to improve the quality of the paper. We have accommodated the comments line by line. We have re-written major portions of the article.

Reviewer: LANFRANCO FATTORINI

Reviewer's report:

**Comment 1**: The period considered is quite short and the number (70) of sputum culture positive for MTB is small so the conclusion could be affected by these limits”.

**Response**: We accept the reviewer comment that the sample size is small and the finding may be affected by this. However, according to the WHO recommendation for MTB DST survey it is not recommended for the study to go beyond one-year. Concerning the sample size we actually determined the sample size based on the WHO guideline formula. However, due to the nature of the study population (retreatment cases) the final sample size is small. But this is the first study in the study site and the finding has significant contribution in determining the burden of drug resistance in the area.

**Comment 2**: Page and line numbers were not indicated and errors in statistical values were reported in different pages, making corrections laborious.

**Response**: We accept the reviewer comment and added page number and line number in to the whole manuscript.

**Comment 3**: The authors should indicate where the study was performed (Jimma Southwest, Ethiopia after … among retreatment cases”

**Response**: We have accepted the comment and we have now included the study site in to the abstract part of background.

**Comment 4**: Results, lines 17-20:

A) “…..(AOR = 3.44, 95% CI = 1.11, 10.60)…..”. The same data were indicated as “…..(AOR = 3.44, 95% CI = 1.12, 10.60)…..” in Results and Table 4.

B) “…..(AOR = 3.00, 95% CI = 1.10, 10.62)…..”. The same data were indicated as “…..(AOR = 3.00, 95% CI = 1.17, 10.67)…..” in Results and “…..(AOR = 3.00, 95% CI = 1.17, 10.69)…..” in Table 4.

C) “…..(AOR = 2.9, 95% CI = 1.01, 8.86)…..”. The same data were indicated as “…..(AOR = 2.99, 95% CI = 1.01, 8.86)…..” in Results and Table 4
D) “…..(AOR = 3.4, 95% CI = 1.14, 10.28)…..”. The same data were indicated as “…..(AOR = 3.43, 95% CI = 1.14, 10.28)…..” in Results and Table 6

Response: We first would like to appreciate the reviewer’s insight to correct us. We accept this as the editorial mistake we made during manuscript writing. We re-assessed the statistical data and the one in the table is the correct one. Thus we corrected the figures in abstract and body of manuscript accordingly.

Introduction

Comment 5: Line 1: “Tuberculosis (TB)…..” in the place of “Tuberculosis…..”

Response: We have accepted the comment and corrected in the manuscript page 3 line 4.

Comment 6: Lines 4 and 7: indicate the meaning of MDR (multidrug-resistant) and XDR (extensively drug-resistant).

Response: We have accepted the comment and corrected it in the manuscript.

Comment 7: Second page, line 2. Reference [11]: I suggest to indicate the most up-dated WHO TB report 2014, showing the same percentages, 1.6 and 12%.

Response: We have accepted the comment and changed the reference in to most up dated one [3] in the manuscript.

Methods

Comment 8: Sample size: “…Jimma in 2011 [46]..”. Reference [46] is out of the Reference section, including 33 references.

Response: We have accepted the comment and corrected in the manuscript.

Laboratory Methods

Comment 9: “….based on para-nitrobenzoic acid…..” in the place of “….based on paranitrobenzoic acid…..”. Furthermore, I suggest to use a reference more appropriate than reference 13 like, for instance “Boum Y 2nd, et al. Use of colorimetric culture methods for detection of Mycobacterium tuberculosis complex isolates from sputum samples in resource-limited settings. J Clin Microbiol. 2013;51:2273-9”.

Response: We have accepted the comment well and corrected in the manuscript. We have also replaced the reference with more appropriate reference Boum Y 2nd, et al.

Result

Comment 10: Lines 1-9. Eliminate Tables 1 and 2 and condense relevant data in the text.
Response: We have accepted the reviewer’s comment and corrected by eliminating table 1 and 2 and condensing relevant data in text page 6 line 19 to 27.

Drug resistance prevalence

Comment 11: “…resistance to only one of the four….”, instead of “…resistance to only of the four….”

Response: we accepted the comment and corrected in the manuscript on page 7 line 11

Discussion

Comment 12: Page 2, line 12: indicate the meaning of RHZES here and throughout the manuscript wherever appropriate (for instance at page 3, line 1: “…STP…”)

Response: we have accepted the comment and indicated the meaning of “RHZES “on page 8 line 11-13 in the manuscript.

Comment 13: Page 3, last 4 lines. Indeed 31.4% MDR TB is very high. This value may depend on the short period (14 months) examined.

Response: We have tried to mention the reason for limiting time to one year study period in line with WHO guideline recommendation of DST survey.

Comment 14: Page 4, line 16: “…of MDR-TB is mostly due to …..” in the place of “…of MDR-TB is exclusively due to …..” (other mechanisms like efflux pumps are known), and add here Reference 13, Zhang et al

Response: We have accepted the commented and addressed on page 11 line 3 of this manuscript.

Comment 15: Tables 1 and 2. Eliminate and condense their content in Results

Response: We accepted the comment, removed table 1 and 2, and mentioned the content in the text.

Comment 16: Tables 4-6: to shorten the paper, I suggest to leave only significant (P <0.05) data and to summarize data of other non-significant categories in Results.

Response: We have accepted the comment and condensed table 2-4 by putting only significant (p<0.05) data (page 17-20) and summarizing- the non significant variables in the result text in the manuscript.

Comment 17: Figure 1: indicate name of drugs in Legend and “Percentage” in Y-axis.

Response: We have accepted the comment and included name of the drug in the legend and percentage in Y axis page 21 figure 1
Reviewer: Said Abbadi

Reviewer's report:

**Comment 1:** Introduction page 3 line 9 leave space between of three as of three “

**Response:** We have accepted the comment and we have now re-written the of three as of three on introduction page 4 line 1

**Comment 2:** the sample size is not enough to reach to these conclusions

**Response:** We have appreciated reviewer suggestion. However, we calculated the same size based on the WHO recommended formula for DST survey in MTB complex [11]. The final sample size became small due to the nature of study participants (retreatment cases). The formula depend on the total number of retreatment cases in the study setting in the nearest previous year of study year. The total number of registered retreatment cases in nearest previous year of study year in our case were N=74. This small number of retreatment cases put its influence on the final sample size. Regardless of this effect the sample size was determined based on scientific formula.

**Comment 3:** The font used in writing the references is not the same in all references needs to be reviewed and corrected.

**Response:** We have accepted the comment well and we have now re-wrote the reference