Author’s response to reviews

Title: Survival analysis of time to cure on multi-drug resistance tuberculosis patients in Amhara region, Ethiopia

Authors:

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Author’s response to reviews:

A list of modifications and a response to the reviewers

With this cover letter, we will submit the revised manuscript entitled “Survival analysis of time to cured on multi-drug resistance tuberculosis patients in Amhara region, Ethiopia (PUBH-D-18-02978)” for publication in BMC Public Health. We would like to thank the Editor and reviewers for the careful and constructive reviews. Based on the comments from the editor and reviewers, we have made corrections of the manuscript, which are indicated below and detailed are found in the manuscript.

Reviewer 1

Point 1: Abstract: The main objective of the study which has been stated very clearly does not seem to have been addressed in the conclusion.

Response: We authors include the first 5 lines in the abstract under conclusion subsection for the reviewer’s comment as “The study discovered that the median recovery time of MDR-TB patients……..”

Point 2: The title indicates that the survival time is being investigated. The conclusion should include a statement to indicate whether the objective was met or not.

Response: We authors believed that this comment is answered by the pervious response.

Point 3: Manuscript: in the methods section, there is a considerable use of passive voice. If the authors can change this to active voice, the reading would be very pleasant.

Response: Authors accept the reviewer’s comment and all passive sentences changed in to active voice which found via track change in method section.
Reviewer 2

Small Mistakes

Point 1: Page 6 paragraph 2, "the frailty term was first introduced by". Please finish the sentence

Response: The sentence is rewritten as “the frailty term was first introduced by Hougaard in 1991”

Point 2: Bibliography: Ref 37 and 44 could be the same reference.

Response: Ref “Askin OE, Inan D, Buyuklu AH: Parameter Estimation of Shared Frailty Models Based on Particle Swarm Optimization. International Journal of Statistics and Probability 2016, 6(1):48.” Is replaced by ref “Oykum Esra Askin DlaAHB: Parameter Estimation of Shared Frailty Models Based on Particle Swarm Optimization. International Journal of Statistics and Probability 2017, 6(1).” And it is correct throughout the manuscript. The mistake was that changing the name of first author

Point 3: Tables. Standardization the numbers. Two or three decimals is enough. Avoid the 0.000 for significance, is better <0.01 or <0.001. Avoid verticals lines and reduce the use of horizontal lines.

Response: Reviewer’s comments are corrected two and three decimals accordingly and the track changes are found in the tables

Point 4: Table 3. The variable Drug Using History is splitted in two cells.

Response: Yes “drug history is binary variable as “YES” and “NO”, but we author are not clear for this comment.

Point 5: Table 5. Avoid capital Greek letters in the caption. Γ is not γ. is not clear in the table 5 (Time Ratio), please added at the caption. I feel that other aspects could improve with few changes.

Response: The Γ is corrected as γ and caption for time ratio is considered in table 5.

Material and methods

Point 6: The manuscript shows brilliant results and a statistic adjusted to the objective. I congratulate the authors for that. However, it is an article difficult to read for those who are not familiar with statistics. Personally I would invite the authors to simplify the "material and
methods" section, explaining in a global way the shades of the models and their application, avoiding cumbersome formulation. Minimizing the bibliography in this regard. In this sense, the fundamentals of the models and how they apply to the context described by the authors and their formulation are much more interesting than the cumbersome formulation.

Response: We authors try to summarize and removed the two formulas from page 7 in method section as per the reviewer’s comment in order to simplify.

Results

Point 7: If the interactions are studied in the results, they must be taken into account when calculating the TRs, since these vary according to the interaction. This fact has not been taken into account and it do not appear in the results or the discussion sections.

Response: We authors include two lines of summary in the result section of page 8 about interaction effect. Whereas the last five lines of the discussion part at page 11 states about interaction effect. Finally, the TRs were computed taking to the consideration of interaction as we depicted in table five.

Discussion.

Point 8: The discussion again describes the data without contributing implications in the field of Public Health. Basically, the statistical aspects are discussed and if the model fits better or worse, nevertheless, the implications are few in the field of the Public Health.

For example. What does it imply that there is a clustering effect due to hospitals in the Health Policies?

The discussion is not very deep for such good results.

Response: We authors try to explore about clustering effect under discussion section of paragraph 2 in page 10 and try state the implications of PH fields.

Conclusion.

Point 9: It should be more direct, a judgment or a decision to make after an argument. Much sentences or ideas of this conclusion should place in the discussion section.

Response: We authors try to amend the conclusion section. The amendments can find in the conclusion section of the manuscript via track change.

Reviewer 3
Point 1: Factors affecting/ associated with recovery time are discussed and concluded in the manuscript but these are not mentioned in the objective part.

Response: The statement stated in the objective part is the general one, but the specific objectives are four which are not explicitly stated here and it is not familiar to state specific objectives in the manuscript. For instance, one among these specific objectives is “To identify the major predictors that affect the recovery time of MDR-TB patients”. And now we authors include the objective on into the background section to avoid ambiguity.

Point 2: Author is suggested to make flow diagram to better represent the methodology of the manuscript.

Response: We authors believed that no need of flow diagram for the methodology, but we included the sample selection flow chart too.

Point 3: Give total no of patients at each step of the study viz. Total no of patients before exclusion, total no of patients whose records/ history is incomplete, total no of patients after applying exclusion criteria.

Response: We include the flow chart for sample selection procedures in the method section of page 5.

Point 4: Give detail: How sample size of 311 was calculated

Response: We authors try to explain the detail calculation of the sample size under method section of page 4 to 5.

Point 5: How adherence mentioned in manuscript was measured.

Response: It is stated in track change in table 1 and table 2 also.

Point 6: In figure 1, what is the basis of depicting only few factors (few significant and few non-significant factors are presented)?

Response: All significant and non-significant predators are listed in the result section and no basis to do but we try to avoid bulky documentation.

Point 6: Occupation is only mentioned in text of result section at one point, while it is not mentioned in table 1 or table 2.
Response: We missed it both in table 1 and 2 during manuscript preparation, thus know we include it in both tables.

Point 7: In conclusion part, first recovery time of MDR-TB patient should be mentioned as it is main objective of the study. Repetition should be avoided in conclusion part.

Response: We try to amend the conclusion section based on other reviewer’s comment also.

Point 8: Grammar of the manuscript needs improvement. Few sentences are left incomplete. While writing reference in the text, author name should be included where ever relevant. Example: .... it was supported by ...Author name..... [48]

Response: The grammar of the manuscript tried to revise using the ProWriting app and the track change is found in the manuscript, but we think that the way of referencing is the style of the journal. If it is not we will change it. In general, we authors hope that the language of the manuscript is improved and it meets the guidelines of the journal.

I would like to thank the reviewers for a thorough study of the text, which improved the paper. I hope that now the manuscript is suitable for publication in BMC Public Health Journal.

Best regards,

Demeke Lakew Workie

Corresponding author