Author's response to reviews

Title: Association of socioeconomic and behavioral factors with adult mortality: Analysis of data from verbal autopsy in Addis Ababa, Ethiopia.

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Author's response to reviews: see over
Response to reviewer's comment

Title: Association of socioeconomic and behavioral factors with adult mortality: Analysis of data from verbal autopsy in Addis Ababa, Ethiopia.

Response 1
The authors would like to thank both reviewers for the second round constructive comments. We have given our response to the comments one by one as follows and incorporated in the text document.

Major compulsory revisions

1. In the abstract, it would be helpful to add that verbal autopsy was used to identify cause of death and frequency of risk behaviours.

Response1: we have accepted this comment and included in the methods section of the abstract.

Introduction

2. Overall, the introduction would benefit from addition of detail to make clearer the prevalence and aetiology of communicable and non-communicable diseases and the association between the risk behaviours examined and diseases assessed. The introduction could also provide greater background to support the focus on specific diseases considered in the paper.

Response2: we have accepted this comment and included the prevalence of the communicable (HIV/AIDS and Tuberculosis) and non communicable diseases (CVD, Malignancy and diabetes) from the study area. We have also described associated risk factors in relation to specific diseases of interest (paragraph 1 & 3).

3. The authors could state the health consequences of Khat – this would then provide a more effective context to the findings reported.

Response3: We have accepted the comment and included health consequences of Khat with references (see two paragraphs before the last).

4. The first sentence of paragraph 4 needs support from literature.

Response4: We have accepted the comment and included a reference.
Methods
5. In the risk behaviours section, the measure of frequency of use is reported only for tobacco use. The measures of frequency of alcohol consumption and khat chewing measured should be provided - was this at least once per day as for tobacco, or other?

Response5: We have accepted this comment and included our measure of frequency for alcohol and khat use (at least four times a week).

6. The authors should highlight that analyses focused on particular diseases and why.

Response6: We have accepted the comment and included the reason with a reference (see the last paragraph of data management section).

7. Greater detail is required regarding statistical analyses – e.g. describing univariable and multivariable regression analyses.

Response7: We have accepted this comment and did greater detail on univariate and multivariate analysis.

Results
8. Please add percentages of deaths alongside numbers in paragraph 2.

Response8: We have accepted the comment and added percentages.

9. Additional points could be noted e.g. highest frequency of use of alcohol evident among those that died from poisoning and chronic liver disease. Frequency of khat is also greater among those that died of digestive diseases – similarly tobacco and chronic liver disease.

Response9: We have accepted this comment and included in the result section and did also some modifications with previous statements. But it will not be readable if we describe every thing.

10. p values should be reported for overall association e.g. between age and the disease rather than for individual subgroups (Tables 6 and 7)

Response10: That is possible but probably it will be good if someone wants to compare between the age groups.

11. In the section ‘association between socioeconomic and health risk factors with causes of mortality’ there needs to be greater consistency in data presented – data in Tables 6 and 7 are only described in relation to HIV, malignancy and CVD - whereas intentional injuries/ TB are
discussed earlier in the paper. Data regarding age, sex and education are not provided for all of the chosen diseases (Tables 6 and 7) and tobacco use is included only for TB (Table 8).

Response11: We have accepted this comment and modified the description the section “association between socioeconomic and health risk factors with causes of mortality’ in such a way that we presented significant findings in the tables.

Discussion
12. Overall, the discussion would be strengthened by explaining the meaning and implications of these results to a greater extent with support from the literature.

Response12: We have accepted this comment and included a paragraph stating the meaning and implications of these results.

13. The authors also need to include discussion of the strengths and limitations of their study in sufficient detail and the latter need to be acknowledged e.g. accuracy of lay recall; knowledge of duration/temporality of substance use; lack of data re co-morbidity etc. The interaction between the risk behaviour and SES variables analysed could also be considered.

Response13: We have accepted this very relevant comment and discussed in detail on the 3rd paragraph under discussion.

14. There is repetition of results e.g. in paragraph 4 and in the conclusion section. The authors suggest causation in paragraph 4 which cannot be inferred from this study. Also please check reference [18] as the authors of this paper do not report a causal association as stated.

Response14: We have accepted the comment and modified the statements and changed the reference.

15. The final paragraph before the conclusions section makes statements which require support from the literature and this should be addressed.

Response15: We have accepted the comment and included a reference.

Minor essential revisions
1. The abstract would benefit from adding percentages of types of deaths; and inclusion of data regarding overall frequency of substance use.

Response1: We have accepted the comment and included percentages.

2. 95% CI should be given with AOR (in abstract and throughout paper).

Response2: We have accepted the comment and included.

3. The first sentence of the abstract conclusion should relate more closely to the study findings.
**Response3:** We have accepted the comment and modified the statement.

4. The first sentence of the 2nd paragraph in the introduction needs restructuring as it does not make sense at present; also do you mean ‘studies’ rather than trends here?

**Response4:** We have accepted the comment and modified the statement.

**Results**

5. It would be helpful to highlight a summary point re Table 2 i.e. alcohol was the substance most frequently used; followed by tobacco then khat; and all more frequent among males.

**Response5:** We have accepted the comment and included a statement about it.

6. 5. It seems that in Table 1 there is missing data re occupation – do you need to note or add a category for unknown?

**Response6:** We have accepted this comment and included it.

7. Tables 3-5 please add n(%) labels to column headings; please amend non alcohol use to no alcohol use.

**Response7:** We have accepted this comment and included it.
Response 2

The authors would like to thank both reviewers for their second round constructive comments. We have given our response to the comments one by one as follows and incorporated in the text document.

**MAJOR COMPULSORY REVISIONS:**

1) First and foremost, for further revisions, it would be VERY helpful that the authors specifically reported in the response letter the changes they have done to the manuscript in relation to the comments.

**Response1:** Yes, we have shown the changes made in the text with this response letter.

2) The authors should note that demographic factors are something different from socioeconomic factors. In the study, three types of variables are examined (or should be examined given the title) in relation to causes of death: behavioural factors (tobacco use, alcohol use and khat use), demographic factors (age and gender) and socioeconomic factors (education and occupation). This is stated in the title and in the objectives. Thus, the authors should compulsory examine these three factors, present results in tables and manuscript, and discuss results. Otherwise, they should amend title and objectives. For now, only behavioural factors are completely examined and discussed. These points are lacking:

a. BOTH demographic and socioeconomic factors in relation to causes of death in low income countries or Ethiopia should be mentioned in the introduction.

**Response1:** We have accepted this comment and included it (please see paragraph 2).

b. A specific paragraph on socioeconomic factors should appear in the methods as for behavioural factors, while now it is placed in statistical analysis.

**Response1:** We have accepted this comment and placed separate paragraph (after the paragraph “Risk behaviours” and before the paragraph “Data management and analysis”).

c. I couldn’t find results for the relationship between occupation and causes of death, but only for education

**Response1:** We have accepted this comment but presented only meaningful results (significant findings).
d. In the discussion, only demographic factors are commented but not socioeconomic factors. In the revision, I would like to see in details, in the cover letter, where the authors have changed the manuscript and what they have added.

**Response1:** We have accepted this comment and included one paragraph before the conclusion.

**MINOR COMPULSORY REVISIONS**

1) **ABSTRACT:** In the results sentence indicate % for the causes of death

**Response1:** We have accepted the comment and included percentages.

2) AOR should be spelled out

**Response2:** May be AOR is a common term and will take space/redundant if spelled out.

3) **BACKGROUND:** The sentence “It has been noted that tobacco and harmful use of alcohol are among the top four leading risk factors of mortality from non communicable diseases” should be placed at the beginning of the corresponding paragraph.

**Response3:** We have modified the paragraph as per the first reviewer comment.

4) **METHODS:** The paragraph “The age of the deceased (in completed years) is categorized as: 15 to 24, 25 to 44, 45 to 54, 55 to 64, and 75 and older. Educational status is categorized as: no education, primary education, and 10 secondary education, above secondary and others (traditional). Occupation is categorized as: professional (technical/managerial/sales/clerical/self-employed), manual laborer (skilled/unskilled), housewives, unemployed, retired, and others (students, farmers).” Should be devoted a subtitle “Demographic and socioeconomic factors” to be placed after the paragraph “Risk behaviours” and before the paragraph “Data management and analysis”.

**Response4:** We have accepted the comment and included it.

5) The first sentence of the second paragraph of the results should be placed before the subtitle “Prevalence of alcohol, tobacco and khat use among deceased adults” as it doesn’t discuss prevalence of risk factors but causes of death.

**Response 5:** We have accepted the comment and change the place.

6) Authors do not need to report all the results in the text. They should use that space to discuss their results instead.
Response 6: We have accepted this comment and our presentation even with tables were meaningful results and what we describe in the text were the major results.

7) I still think that English editing by a native English speaker would improve the quality of the manuscript.

Response 5: We have accepted this comment; and a senior expert (PhD, Professor) has edited the language again.