Reviewer's report

Title: Common Types of Tuberculosis and Co-Infection with HIV at Private Health Institutions in Amhara Region of Ethiopia: A Cross Sectional Study

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Reviewer: Fidele Kanyimbu Mukinda

Reviewer's report:

"Common Types of Tuberculosis and Co-Infection with HIV at Private Health Institutions in Ethiopia: A Cross Sectional Study"

This study is very important and very interesting. However, the comments below should be considered for improvement.

- Major Compulsory Revisions

Methods
- Paragraph 1:
  “Data were collected randomly at different times of the year from each private health institution”. Please describe how “randomly”

  “We believe the random nature of data collection times will not cause any significant bias to the findings of the research”. This sentence is not important at this stage, I would suggest mentioning this in the Discussion section.

- Paragraph 2:
  “The study was done in 15 different private health institutions…” How did you select these 15 institutions? How many private health institutions are there in your setting from which you selected the 15? Please elaborate.

- Paragraph 3:
  “Data were collected with the help of WELL structured and pretested questionnaires…” “WELL ORIENTED health professionals were assigned at each private institution to collect data supervised by medical doctors.”

  Suggestion: Remove WELL as it subjectively overemphasizes what was done. Who are these health professionals (doctors? Nurses?) I would suggest to name them and re-structure the sentence.

- Paragraph 4
  “Analysis is handled by statistical summarizing methods like measures of central tendency, measures of dispersion, tables and diagrammatic presentation of data.”

  There is no diagrammatic presentation of data; please check.
Paragraph 6:
"Moreover, patients were asked for their permission."
Which permission is this? Do you mean informed consent?

Results
- Paragraph 1:
"The age variation ranges from a minimum of 2 years to a maximum of 82. The mean age was 31.6 years with a standard deviation of 13.5 years."
Suggestion: The mean age was 31.6 years (Standard deviation: 13.5; range: 2 to 82)
"T test was done to see if there was age difference between female and male patients." Suggestion: Put this sentence in the methods section.
"The result showed that there was a significant age difference with a mean age difference of 3.8 years (95% CI: 2.2 to 5.4)."
Suggestion: T-test showed a significant difference in mean age between male and female patients (Mean age = 3.8 years; 95% CI: 2.2 to 5.4)

- Paragraph 2:
"…and 70% had been married at least once"
Comment: Please report N(%) not only %. Consider this in the rest of the paragraphs as well.

- Paragraph 3
"Living areas of the study participants were classified into 5 settings: urban, semi-urban, rural, semi-rural and mobile.”
Comment: Please add the definition of “mobile” in your methods

- Paragraph 4
"Regarding the types of tuberculosis, just above 50% of the participants were diagnosed to have PTB out of whom 57% were smear positive PTB patients”
Suggestion: Regarding the types of tuberculosis, N?(%) participants were diagnosed with PTB; N?( 57%) of whom were smear positive PTB patients

- Paragraph 5:
"One hundred sixty three patients (14.4%) reported that they had some sort of contact with a chronic cougher.”
Suggestion: 163 (14.4%) patients reported that they had some sort of contact with a chronic cougher

- Paragraph 6:
"However, 334 (29.3%) patients did not undergo the testing.”
Comment: None of the totals from the categories (Sex, Age Group, Marital status, etc.) in table 3 correspond to 334. Please check the numbers.

“Out of those patients tested for HIV, 161 (20%) tested positive.”
Comment: Discrepancy with the numbers in Table 3. None of the numbers in categories add up to 161. Please check.

Discussion
- Paragraph 1
“This study has shown that TB occurs” Suggestion: This study showed that TB occurs

“A significant age difference was seen among female and male TB patients. The mean age of male TB patients (33.3 years) was found to be 3.8 years higher than that of female TB patients (29.5 years).

Suggestion: Delete the second sentence since it is part of the results. Read: “A significant age difference was seen between female and male TB patients.”

- Paragraph 2
“Possible factors which may be related to TB HIV co-infection like marital status, patient residence and type of TB are investigated in this study”

Suggestion: TB/HIV co-infection like marital status, patient residence and type of TB WERE investigated in this study

“…most of the TB patients encountered were from rural or semi-urban settings.”

Comment: Are you suggesting that, in your setting, rural and semi-urban patients are more likely to consult private facilities than urban patients? How pragmatic is this finding bearing in mind the accessibility in terms of distance, cost, etc?

“This is in line with data from many different observations.14,18”

Suggestion: This is in line with data from OTHER observations.14,18

- Paragraph 3
“Quite a big number of patients were not screened for one or another reason.14,20,21,22,23”

Comment: Please check your referencing style

- Paragraph 4
“The rate of TB and HIV co-infection in Ethiopia was shown by SOME PAPERS to be in the range of 40-70%.”

Suggestion: The rate of TB and HIV co-infection in Ethiopia was SHOWN by OTHER STUDIES to be in the range of 40-70%.

“This STRONG link between HIV and tuberculosis…” Suggestion: Delete STRONG, subjective overemphasizing.
Please discuss any limitation of your study. How did you deal with possible bias (selection bias, information bias, etc?)

TABLES

- Table 1. Table showing the types of TB identified at selected private health institutions in Amhara National Regional State, 2008/09

Suggestion: Table 1. Types of TB identified at selected private health institutions in Amhara National Regional State, 2008/09

Total 1140. Please explain the difference in numbers because you reported in the result a total of 1153. This comment stands for all tables.

- “Table 2. Table showing the types of isolated extrapulmonary TB cases at private health institutions in Amhara National Regional State, 2008/09”

Suggestion: Table 2. Types of isolated extrapulmonary TB cases at private health institutions in Amhara National Regional State, 2008/09

- “Table 3. Table showing the HIV status of TB patients in relation to their sociodemographic characteristics at selected private health institutions in Amhara National Regional State, 2008/09”

Suggestion: Table 3. HIV status of TB patients in relation to their sociodemographic characteristics at selected private health institutions in Amhara National Regional State, 2008/09

Comment: This table seems to be very busy while being the most important one. I would suggest to add N(%) under the headings [e.g: Positive N(%), Negative N(%) Test done N(%)]) and delete all the % inside the table. The 100% in total does not have any meaning; could you consider instead the % of the total study population [e.g. Male 599 (53.4%)]

- Minor Essential Revisions

- Tuberculosis vs TB: Please be consistent throughout the text. Use Tuberculosis (TB) and the remaining use only TB (i.e. abbreviation)
- Please define before using abbreviations (EPTB, PTB)
- References: Please check all your references for consistency in writing
  e.g.: Ref 1: “21-27” write 21-7; ref2:”269-276” write 269-76; refe3: “1500-1507” 1500-7; etc

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: I declare that I have no competing interests