Reviewer's report

Title: Factors associated with delayed treatment of tuberculosis in hospitalized patients: a retrospective cohort study.

Version: 1 Date: 25 November 2011

Reviewer: John Ayisi

Reviewer's report:

1. Is the question posed by the authors well defined? No. It's not clear whether the authors are addressing diagnostic or treatment delay and whether all patients were admitted due to TB or other conditions.

2. Are the methods appropriate and well described? No. If it was a retrospective cohort, there is no clear definition of what an actual TB case was in this study.

3. Are the data sound? Yes. But what criteria were used to get the three classifications of delay?

4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes.

5. Are the discussion and conclusions well balanced and adequately supported by the data? No. Major shortfalls of discussions are indicated in the major compulsory revisions below.

6. Are limitations of the work clearly stated? No. Regarding mortality, were there patients who might have been discharged, died but were not captured by this study?

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes.

8. Do the title and abstract accurately convey what has been found? No. Refer to my remarks on major compulsory revisions below.

9. Is the writing acceptable? Yes.

- Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)
- Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
- Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

Reviewer's report-----------------
- Major Compulsory Revisions

1. There is confusion from the Title and the contents of the manuscript. Were all patients admitted due to TB diagnosis but treatment initiation was delayed in facility?

2. The authors are mixing treatment delay as in the Title and diagnosis delay as in discussion paragraph 1, line 4. Their definition of treatment delay must come out clearly

Discussion section

3. In Abstract (line 12) and in discussion section (paragraph 1, line 4 and paragraph 3, line 1 it is wrong to state female gender was associated with delayed treatment This has not been shown in your multivariate analysis

4. It looks like female gender is confounding HIV. Authors should therefore present results of HIV status of the study group, by gender

5. Paragraph 2, last sentence give the likely explanation for differences observed in Brazil (45.6%) and Canada (30%)

6. Paragraph 3, line 2 what do figures 500 in parenthesis indicate?

7. Paragraph 3, line 5 the cited study from Tanzania, did authors address patient and provider delay in their current study? They need to be careful in their writing.

8. Paragraph 3, last sentence, ending with ---- explain our finding. There is no evidence from their data to support this statement.

9. Its not plausible as to why age should delay treatment initiation among TB diagnosed patient, but can impact health seeking (can delay). Authors need to clarify this.

10. Paragraph 9, line 1, is delay of treatment or diagnosis? In same paragraph line 3, HIV is known to delay TB diagnosis due to non-specific results and not what the authors are alluding.

11. Paragraph 10, line 7, authors to keep in mind that age affects care seeking, not treatment initiation in a health facility, and at the same time it is a risk factor for chronic diseases like diabetes. The argument regarding age and initiation of treatment in a health facility is not consistent with what is in the public domain.

12. Paragraph 11, this paragraph need re-writing unless it is clarified what delay in treatment in this study means, the discussion is misleading if patients started treatment immediately upon diagnosis in the facility after being admitted. Were all patients admitted due to TB or it was due to other medical problems?

13. Paragraph 12, line 1, the limitation between diagnostic and treatment delay must be made by the authors for this study to have value. Otherwise, the conclusions may be misleading.

14. Paragraph 12 last sentence starting with Delays in diagnosis---- is misleading since the study only addresses health facility delay in treatment and not patient delay, thus one cant tell whether most delay was due to patient or provider, hence source of delay may not be captured from admitted patients.
15. Paragraph 13, second line linking delay with female gender is wrong as this did remain significant in multivariate model. In addition studies on health seeking, especially by HIV status may be warranted in the study setup as a recommendation.

- Minor Essential Revisions

Discussion Paragraph 9, line 5 has a typo error

The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

Methods:

First paragraph

1. 3rd line southern in Southern Brazil should start with a lower case.
2. Last sentence starting with ethics committee to be moved to after the end of 4th paragraph after the words ---- and group 3 (> 6 days).

Second paragraph

1. Last sentence ending with location (line 10) needs a reference

Third paragraph

1. Second line, variables from smoking to injection drug use should referred to as behavioural, while from clinical form TB to outcome of after discharge should be medical history

Results:

2nd paragraph line 3--- current smokers (and in Table 2) appear to be fewer in group 3 (p=.082). The issue may be small numbers affecting your statistical test. Clarify this fact.

5th paragraph lines 5 and 9 add % to figures e.g. 56.8% and 36.8% respectively

6th paragraph, last sentence that starts with--- The following variables remained----, need to show these results as Table 3.

Table 1. Include the median delay and IQR.

What next?

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- Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest
- An article of importance in its field
Quality of written English
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- Needs some language corrections before being published
Statistical review
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- No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests
'I declare that I have no competing interests' below.