Reviewer's report

Title: Risk factors for treatment delay in pulmonary tuberculosis in HIV-infected individuals: a nested case-control study

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Reviewer: Valeria Saraceni

Reviewer's report:

Minor Essential Revisions

1- Abstract
Risk factors from Table 2 were reported. Then, why table 3 is presented?

Should state that patients were already attending the 2 health services by the time they developed cough (range: 1 – 552 days).

2 - Background:
1st paragraph – reference #2 cannot be accessed and checked, but doesn’t be the better source to make an affirmative as “In Brazil, TB is the primary cause of death in HIV-infected individuals [2].” – The mortality system would be preferable then the mandatory disease reporting system.

2nd paragraph – this part should be suppressed “the bacillus causes an increase in the viral load, which is a predisposing factor for more severe forms of TB”, since the reference #9 is about CD4 cells and not viral load.

3 - Methods
Statistical analysis
1st paragraph – The sentence “As the literature provides no definition of the time delay in treating TB in HIV-infected individuals, the median value was adopted.” Should be reformulated to NO UNIFORM DEFINITION…

3rd paragraph – the stepwise method is not clear enough, should be rewritten. It’ll have implications on the Results section, where Table 2 and 3 are 2 final models, and no statistical method is described to show the goodness of fitness of one over the other and 2 final models are presented, although only 1 is cited in the Abstract (the asthenia one).

4 - Results
Figure 1 - it’s not clear why 05 cases of Default from TB treatment were excluded once the study was about delay in initiating TB treatment. Please, clarify what has happened to those cases.

2nd paragraph – “The mean CD4-cell count was 213.9 cells/mm3 and a median of 142 (1-1254) cells/mm3.” # the absolute value for cell count would be better. Please, indicate if the number within parentheses are referring to the range
or IQR.

2nd paragraph – “The sputum smear was negative in 40.9% and was not performed by 23.9%.” Therefore, 35.2 were smear positive, but what about culture results, confirming MTb? It should be included here.

3rd paragraph – Table 3 is not described in narrative. Why the authors remained with 2 final models (TABLES 2 and 3), when they state: “Variables that remained in the final model were …”. I guess a statistical test to check the better model to explain the results should be presented and explained why 2 models, and which one was the best.

5 - Discussion

2nd paragraph – the reference from Liam [6] is from 1997, when treating HIV/AIDS was far different than 2007, with no HAART availability. It doesn’t seem a good comparison to me, once it was another era in AIDS care.

Once there was no clear definition of delay in the literature, and a myriad of “labels” (delay in diagnosis, delay in treatment, delay due to patient, delay due to health services) were used, when the authors compare their results to the literature, paragraphs 2 to 4 are quite difficult to follow. I’d suggest trying to make it a little bit more palatable.

Discretionary Revisions

6 - Results

Table 1 – Above the columns > 41 days and < 41 days the words “Delayed” and “No delay” should be displayed to make it easier to understand.

Variable Sputum Smear # n=225 out of 242 cases # if there’s missing information on a variable that was selected for the final model, I think it would be better to describe why, once all cases were followed and diagnosed in 2 referral centers.

Variable Smear Culture # should be renamed Sputum culture, not smear. Also, this variable adds up to 195. Same above, although this variable wasn’t part of the final model.

7 - Discussion

1st paragraph – “In the present study, a median of 41 days was found between the onset of cough and the initiation of treatment for pulmonary TB in HIV-infected individuals. When this time interval was greater than the median we assumed that there was a delay in initiating treatment and that it was related to the health service.” To be related to the health services (HS), the authors are implying that all patients were being followed at 2 referral centers and so any delay was a HS’s fault?

Just a comment here: the last paragraph made clear that the authors approached the possible confounding factor of “time to a new consultation after the onset of cough”. The authors have shown a careful review of their findings, which is really
important in case-control studies. I would have included those results in the results’ section for the sake of clearness.

8 - References
#2 – couldn’t be accessed.

Some have the volume within parentheses, others not. It seems that the journal does not require volume.

#35 – missing the final page

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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