Author’s response to reviews

Title: Tuberculosis Treatment Outcome and Predictors in Northern Ethiopian Prisons: a five year retrospective analysis

Authors:

Kelemework Adane (ingoldmlt@gmail.com)

Mark Spigt (m.spigt@maastrichtuniversity.nl)

Geert-Jan Dinant (geertjan.dinant@maastrichtuniversity.nl)

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Response to reviewers

Title: Tuberculosis Treatment Outcome and Predictors in Northern Ethiopian Prisons: a five-year retrospective analysis

Version: 1, Date: 27/09/2017

Dr Giorgia Sulis,

Academic Editor

BMC Pulmonary Medicine

Subject: Revised manuscript (PULM-D-17-00307)

Dear Dr Giorgia Sulis,

Thank you very much for your email dated on August 29, 2017. Here, we have carefully considered and tried to address the points raised the reviewers. We hope that it would now be suitable for publication in BMC Pulmonary Medicine.
Reviewer 1: Emanuele Pontali,

This is an interesting report regarding a neglected area of TB control.

1. In general, English language requires a careful review for better comprehension and smoother reading.

Revision: Now, the language is well edited.

2. In most cases Guidelines should be used instead of Guideline.

Revision: Corrected as suggested.

2. Introduction, the sentence 'The multidrug-resistant TB (MDR-TB) prevalence as high as 24% has been reported from these settings, making TB control efforts very complicated [7].' is not clear and needs to be re-phrased

Revision: Corrected as suggested.

- Introduction, sentence starting at line 60: it needs to be explained if TB treatment programs in Ethiopian prisons are within the NTP or under another Ministry or Department. Are such programs carried out by prison staff, NTP, or other staff?

Revision: Corrected as suggested.

- Methods, study setting: a map of Ethiopia with prisons would be useful for readers not familiar with the country.

Revision: Map is included now.

- Data analysis, line 111: please, replace declare with define

Revision: Corrected as suggested.

- Results: Sentence starting at line 118 'Extra-pulmonary TB (EPTB) patients accounted 43% of the TB cases and 30% were smear-negative pulmonary TB (PTB-) cases.' could be better written
as 'Extra-pulmonary TB (EPTB) patients accounted for 43% of the TB cases; 30% of total cases had smear-negative pulmonary TB (PTB-).'

Revision: Corrected as suggested.

- Results: line 121: 'smeared' should become 'smear'
  Revision: corrected as suggested.

- Results: Sentence starting at line 122: any significant difference? Please, state significant or not significant at the end of the sentence.
  Revision: Corrected as suggested.

- Treatment outcome and trends: here is the key point in data analysis. 94% TSR is not based on an ITT evaluation. It is too high to be real, in fact denominator does not include the 74 transferred out. Actually, when reading from line 134 and from Table 2 it is clear that TSR is just 79.5%. In other words, true TSR is 79.5%, while among patient who did not transfer out TSR is 94%. But this is not clear in the abstract and in the text. This is a key issue to take care of. Even discussion uses 94% TSR to compare with other studies without reporting if TSR of such studies was ITT per per patients still in the same prison at the end of the study. This must be stated for each study evaluated for comparison. Did other studies include transfer out patients among defaulters?

Revision: Comment incorporated (abstract, results and discussion). Now we have tried to make it clear by mentioning that the TSR was calculated excluding the transferred out patients. We preferred to estimate the TSR only by considering those who completed treatment while in prisons, because of that it was hard to exactly tell about the transferred out patients as their final outcome was not known (even though probably they might have deflated).

- Discussion, line 175: it is not clear the meaning of 'findings were still smaller'
  Revision: Corrected.

- Discussion: line 182 the following sentence is not clear: As high as 54% of the study participants in the South African prison [11], for example, were co-infected with HIV and in this [11] and other studies [18,24], HIV co-infections has been shown to be associated with unsuccessful treatment outcome.
Revision: Modified as suggested.

- Discussion: some discussion/comments on the very high proportion of pulmonary ss- and EPTB cases. This casts doubts on the performance of diagnostic activities.

  Revision: suggestion included.

- Discussion, sentence starting at line 225: it should be specified where such incidence of MDR-TB did occur.

  Revision: suggestion included.

Reviewer # 2: Lorenzo Zammarchi:

This is a simple but very clear and interesting retrospective report on the performance of a TB treatment program in Ethiopian prisons. The authors report a very high treatment success rate in that prisons.

1. It would be interesting to have more information concerning the conditions in which the prisoners live for example the average number of subjects per prison cell, if the cell are aerated, the adequacy and the type of food provided to prisoners, whether the prisoners must perform forced labour, whether the TB patients are isolated from other prisoners. It would be also interesting to have more information about the size of the prisons (i.e. the total number of prisoners considering both TB patients and non infected individuals), whether the TB cases were acquired in the prisons or not and the diagnostic delay (time between symptoms onset and the onset of treatment following the diagnosis). All that factors could partially explain the good performance of the TB program in these prisons together with the good performance of the DOT strategy as reported by the authors.

Revision/response: We have tried to incorporate important of the points raised here in our discussion part. However, it was difficult to mention some points (such as diagnostic delay, size of the prison cell etc) because of that our study was a retrospective analysis and that such information was not available in the treatment-recording format.

Thanks in advance.