Reviewer’s report

Title: Risk factors associated with default from tuberculosis treatment, South Africa, 2002: a case-control study

Version: 2 Date: 5 October 2011

Reviewer: Jose-María Garcia-Garcia

Reviewer’s report:

Major compulsory revisions
- The study includes 1164 patients (232 cases and 932 controls) of 3165 patients treated in 2002 and it is a retrospective, based on a questionnaire performed a long time after the tuberculosis episode. They interview 232 cases, 26% de cases with health record review. These are very important limitations as the authors recognize.

- Controls are patients who complete at least four of the six or eight months of treatment. I think this is a major concern. This definition is completely different to the definition of controls in abstract (“Control were those who began therapy and were cured, completed or failed treatment”). The definition showed in abstract, in my opinion, is more correct than the definition in page 3, and in accordance with the international standard definition. A patient who receives treatment for 4 months over 6 or 8 is not cured, neither completed nor failed, and I think he can be defined as defaulter because he interrupts treatment for two months. I think this should be clarified. If the authors maintain that four months of treatment is a control, they should specify and show data about the time of treatment that controls have received, the number of months they have been treated, and the number or cured, completed or failed treatment.

- The study design was one case and two controls. However the authors analyse 232 cases and 932 controls, with a relation of 1/4.

- They have a large proportion of patients who have died (18%), 210 cases and 352 controls. The number of deaths is almost similar to the number of cases studied.

- Page 10, 1st paragraph, (about cause of death). They write “among cases (42/210, 42%)”. This should be corrected. 42/210 is 20% and 102/352 is 29%, so the proportion of TB deaths in relation to TB, was higher in controls than in cases

- They describe that 33 patients died 2 months after stopping treatment and the authors assume that“ these patients were probably misclassified as defaulters, and they were likely deaths”. I do not understand this doubt: in what time of the treatment do they stop the treatment? Do they interrupt or abandon the treatment before 6-8 months? Or do they finish correctly the treatment?.

- They describe differences between cases interviewed vs. not interviewed and the cases interviewed defaulted later in the treatment course. May be this can also be another limitation to the study.
- In relation with results in page 13, there are significant factors (having no formal education, drinking any alcohol, seeing a traditional healer, food given to me by nurses....) that the authors do not cite in abstract.

- In discussion. I do not understand the commentary of page 15: “It is concerning that half of all patients reported that they were no supervised when they took their TB treatment”. I do not find any result in the article about this issue that support the affirmation.

Minor essencial revisions

Abstract:
- There is an error in “changing residence during TB treatment (new OR 22.0 95% CI 1.2-2.8%; ....) I think it should be “changing residence during TB treatment (new OR 2.0 95% CI 1.1-3.7%;...) (Table 5).

- There is another discordance between abstract and Table 5. In abstract “a risk factor is stopping TB treatment because they felt better”, and in Table 5 the factor is “Did not feel better with treatment”. This should be clarified.

Material and methods
- The population is people enrolled in treatment DOTS (I suggest the incorporation of this in abstract).

- The treatment regimen of new and re-treatment should be described in material and methods.

- I think the definition of default should be incorporated in abstract.

- They do not have data about the HIV status of patients with TB.

Results
- Last line second paragraph page 11. “travel time to the clinic” is not in table 3. I do not find it in any table.

Discretionary revisions
- The risk factors studied are social and economical related to people and factors in relation with health care organization, I think it could be interesting to add in the title and objectives a word or short phrase which define these factors (in the last paragraph of the introduction the authors speak about “patient-level and provider-level risk factors”).

- The description of the results in relation whit tables 2-3 is confuse, not well-ordered and too long. Some paragraphs and factors are not in relation with Tables they cite in the text. Tables 2,3 have too much data and they are difficult to read and understand.

- In the second paragraph of page 11 you repeat “cases were more likely than controls to be male” already expressed in page 10.

Level of interest: An article whose findings are important to those with closely related research interests
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 interest.