Reviewer’s report

Title: Delay of sputum smear conversion and outcomes of smears positive tuberculosis patients: A retrospective cohort study in Bafousam, Cameroon

Version: 2 Date: 4 January 2015

Reviewer: Jann-Yuan Wang

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In this retrospective cohort study, a total of 1286 smear-positive pulmonary tuberculosis (TB) patients were included. Among them, 7.3% were smear non-converters after 2 months of anti-TB treatment. Logistic regression analysis revealed that the independent risk factors of sputum smear non-conversion were high initial mycobacterial load and pulmonary TB diagnosed between 2009 and 2012. Sputum smear non-converted was associated with treatment failure and death. The issues addressed in the study are important in public health. However, a lot of limitations can be identified in the study.

Major Compulsory Revisions:
1. The major limitation of this study is lack of novelty.
2. What is the follow-up duration for each patient? When is the outcome evaluated? These are not clear in the methodology section.
3. From a standpoint of public health, understanding the causes of sputum smear non-converted is the first step for intervention. However, the two predictors identified in the study were not changeable. How to prevent an unfavorable outcome in a patient with persistent smear-positivity is more important. But this is not mentioned in the manuscript. Is giving 4-combined anti-TB regimen for one more month effective? Is doing drug susceptibility testing and modifying anti-TB regimen accordingly effective?

Minor Essential Revisions:
1. Did
2. Line 116: “bacteriological conversion” should be “bacteriological non-conversion”.
3. Line 137-139: Age and male sex were both significant predictors in univariate analysis. However, both were not independent risk factors in multivariate analysis (p=0.07 and 0.55, respectively).
4. Line 171: Reference 5 describes a study focusing on multidrug-resistant TB patients. Therefore, it is not suitable here.
5. Tables: The percentages in many places of the tables should be calculated by dividing each number by the number of total patients in the same column, rather than by that in the same row.
6. Was HIV serostatus checked in every patients?

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

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

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.