Reviewer’s report

Title: Non-conversion of sputum culture among patients with smear positive pulmonary tuberculosis in Cameroon: a prospective cohort study

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Reviewer: Jann-Yuan Wang

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By analyzing 86 TB patients with persistent sputum smear positivity after 2 months of anti-TB treatment in Cameroon, the authors found that 53% remained culture-positive for Mycobacterium tuberculosis. Among them, 2 were MDR-TB. Absence of hemoptysis and current smoking were independent factors for sputum culture non-conversion. The manuscript is well written, and can be further improved if considering the following comments.

Major Compulsory Revisions:
1. I agree that drug resistance is one reason of treatment failure. Therefore early detection of drug resistance is important. However, what is the cause of treatment failure in the 8 patients without sputum culture conversion after 2 months of anti-TB treatment? Those patients may require other interventions rather than drug susceptibility testing.
2. If resource is limited, every public health policy should be made based on cost-effective consideration. Before making any conclusion of suggestion, the authors should try to prove it cost-effective.
3. Predictive factor is helpful only when the outcome cannot easily be measured. At the beginning of anti-TB treatment, predicting sputum culture non-conversion after 2 months of treatment maybe important. However, in this study, the participants were all patients with persistent smear positivity. Therefore if mycobacterial culture is available, the correct response should be simply “mycobacterial culture”, rather than trying to use partially reliable clinical factors to predict the culture result.

Minor Essential Revisions:
1. The authors should mention in the methods section how identification of mycobacterium species were performed.
2. It remains inconclusive whether TB patients without sputum culture conversion after 2 months of anti-TB treatment remain infectious, especially when the clinical isolate of Mycobacterium tuberculosis is all-susceptible.
3. Page 8, 3rd paragraph, 1st sentence: please write down the prevalence.
4. Page 8, 3rd paragraph, 2nd sentence: I think “persistent culture positivity” is better than “persistent smear positivity”.

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

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.