Reviewer's report

**Title:** Comparison of rapid tests for detection of rifampicin-resistant Mycobacterium tuberculosis in Kampala, Uganda

**Version:** 1  **Date:** 18 March 2009

**Reviewer:** Ruwen Jou

Reviewer's report:

Major Compulsory Revisions

Authors reported results of performance assessment of five drug susceptibility tests on rifampicin resistant Mycobacterium tuberculosis. Methods included in the study have been around for some time. Evaluations of those methods have been done in different settings. In this study, limit number of isolates were tested for each method. Tested were not carried out in parallel. Overall, 21.7% (44/203) of samples failed in this study. Pricing might differ from site to site depends on marketing strategy of suppliers. Basically this is not a novel study; the conclusion added no new value for the diagnosis of drug-resistant TB. The impact of implementing rapid methods for the local TB control program was not clearly described. More data will be required.

Comments:

In Abstract
1. Move DST methods from Background to Methods.
2. The title of the manuscript is for RMPr detection not for MDR-TB.
3. The conclusion is not strong enough. It is obvious that direct methods have shorter TAT.

In Background
1. In order to justify whether RMPPr could be a marker for MDR, the rates of mono-RMPPr, mono-INHr and MDR needs to be included.
2. Describe drug-resistant rate of new and retreated MDR cases in the study setting.
3. Epidemiology of TB in the country needs to be mentioned.

In Methods
1. In “study population and ethics”: Please indicate case number and sample size. Please explain the representability of samples in the study period.
2. Authors already mentioned that “a consecutive sample of re-treatment cases….” was the study population. In lines 3-5, The description of “Adult……” is confusing.
3. In “study design”: Only five specimens were tested each week. How the
reproducibility and quality of the tests were confirmed?

4. In “laboratory procedures”: Please make sure the statement “….smear-positive sputum specimens were collected” was correct. Normally, sputum specimens could not be described as positive or negative during collection. AFB smear microscopy is needed to define positive or negative.

5. In: Do authors mean CDC or the ATS grading guidelines?

6. In “laboratory procedures”, page 8: Was the direct BACTEC susceptibility test standardized? The method was not properly described (for example, the test controls, and smear positivity vs incubation days).

7. In “cost per test”: Costs of both labor and overhead are difficult to define clearly.

In Results

1. In “evaluable results”: Only 78.3% of data was available for analysis. Please make sure whether LiPA has the highest percentage yield of results.

In Discussions

1. Authors mentioned that only one contamination was found in phage method in the results section. While, in the second paragraph of page 15, authors described that failure of phage test was due to contamination.

Table 2

Please try to use a different Table format.

**Level of interest:** An article of limited interest

**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 interests'