Reviewer’s report

Title: Tuberculosis in Sudan: a study of Mycobacterium tuberculosis strain genotype and susceptibility to anti-tuberculosis drugs.

Version: 1 Date: 10 April 2011

Reviewer: Sven Hoffner

Reviewer’s report:

As clearly stated by the authors the knowledge of the TB situation in Sudan is limited and studies like this to increase our understanding of the problem are welcomed. The focus of the manuscript is on drug resistance TB and some results from molecular epidemiology characterization are also reported. Please see my comments and concerns below.

• Major Compulsory Revisions

1. The most unexpected result reported is the high level of resistance to rifampicin compared to isoniazid. This would implement that rif-res in Sudan would not be a good marker for MDR-TB. In my view this is either a correct observation, with major implication for implementation of new rapid molecular techniques for early demonstration of MDR, or due to a laboratory misclassification. From the report it is not possible to see if this is a correct finding. Nothing is mentioned on the QC of DST at the laboratory, and the suggested explanation is not convincing. Use of rifampicin for other conditions than TB is not unique for Sudan, but so is the level of mono-resistance to rif. The authors must provide information to strengthen that this is a correct finding, and if this is the case, it should be more central in the report.

• Minor Essential Revisions

1. Which drugs are used for MDR-TB treatment?
2. Rephrase the sentence in Methods on consecutive patients. Now a bit confusing since the days of inclusion was randomly selected.
3. An individual is never MDR – it is the isolated bacteria that could be.
4. Why were three isolates excluded from spoligotyping?
5. Present occupations in a table rather than in the text.
6. How was the 17 strains selected for MIRU/VNTR?
7. Table 1 – limited value (see below)

• Discretionary Revisions

The added value of molecular epidemiological typing is unclear. The material is limited and only a very small proportion of the isolates are tested beyond the
level of spoligotyping. The authors suggest that a more substantial typing should be performed. I agree and suggest that the authors consider deleting this part of the present ms and preparing a more complete report with this focus in the future.

**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