Reviewer's report

Title: Factors associated with anti-phenolic glycolipid-I seropositivity among the household contacts of leprosy cases

Version: 2 Date: 28 February 2015

Reviewer: Lavanya Suneetha

Reviewer's report:

Detailed comments based on the guide to reviewers:

1. Is the question posed original, important and well defined?

The question posed is original, identifying contacts/early stage of leprosy, by evaluating specific antibody production using the ML flow test in the north-eastern municipalities of the state of Minas Gerais, Brazil. The study is well defined and important globally especially for countries where leprosy is still prevalent.

2. Is the data sound and well defined?

The data is sound. The seropositivity of household contacts has been evaluated for association of socio-demographic characteristics, BCG, signs of leprosy and consanguinity using appropriate statistical tools. Seropositivity of the contacts is also studied in relation to the type of leprosy in the index case.

3. Is the interpretation (discussion and conclusion) well balanced and supported by the data?

Major compulsory revision

The results are presented well, however the authors use the term Seropositivity “rate” which is not clearly defined and may not be necessary and can just be stated as ‘seropositivity’ between lines 165 – 224.

The discussion and conclusions are based on the data of the study and is well balanced.

4. Are the methods appropriate and well described, and are sufficient details provided to allow others to evaluate and/or replicate the work?

Minor essential revision

The methods are well described, however, the anti – PGL, ML flow test can be briefly described as it is the key test against which all the variables were evaluated.

In lines 121 & 122 the type of antibodies of anti- PGL1 detected should be specified, whether it is IgG, IgM or IgA. This may have implications in the differences observed in contacts of newly diagnosed versus contacts of old index
cases.

5. What are the strengths and weaknesses of the methods?

The key test is the lateral flow test, which is now being researched in various populations and in other studies. The study is well designed and is a part of another ongoing major study of household contacts. Hence the primary & the secondary data derived are clear and well defined including the clinical diagnosis of index case. Additionally comparing the seropositivity of anti PGL in the contacts with the seropositivity of the index case would have given more direct implications and strengthened the study. (Discretionary Revision)

6. Can the writing, organization, tables and figures be improved?

Minor essential revision

The tables are well presented. The material & methods as well as the table could have defined the signs suggestive of leprosy, which the authors considered. The variables presented in tables are clear. In tables 1, 2 and 3 the total number of subjects in each variable can be presented in a column and the PGL seronegativity data (PGL negative %) column can be excluded.

7. When revisions are requested.

Define the term “rate” or the authors could exclude the word.

8. Are there any ethical or competing interests issues you would like to raise?

The studies have been cleared by the ethical committee as mentioned in “Methods” lines – 156-163. Issues of conflict of interest not found.

9. Confidentiality: Any manuscript sent for peer review is a confidential document and should remain so until it is formally published.

In agreement

11. Are the included additional files (supplementary materials) appropriate?

Not applicable

**Level of interest:** An article of importance in its field

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

**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'