Reviewer’s report

Title: Social and environmental conditions related to Mycobacterium leprae infection in children and adolescents from three leprosy endemic regions of Colombia

Version: 0 Date: 15 Jan 2019

Reviewer: Joilda Nery

Reviewer's report:

Below are some important recommendations for authors to improve the quality and clarity of the manuscript:

- List of abbreviations: If abbreviations are used in the text they should be defined in the text at first use (for example acronyms of table 1), and a list of abbreviations should be provided.

- I recommend a review of English. There are terms that are not commonly used in scientific language.

**Abstract:

- Please insert background information on why leprosy is a public health problem in Colombia (especially among children and adolescents) and the relationship of antigens indicating M. leprae infection with social and environmental conditions

**Introduction:

- Please insert more information on why leprosy is a public health problem in Colombia, presenting epidemiological data (especially among children and adolescents) and the relationship of antigens indicating M. leprae infection with social and environmental conditions.

- Make it clear to the reader if there are studies that point out the association between PGL-I and social determinants of leprosy. Is PGL-I considered the gold standard?

- Lines 46 to 57 - this section has been displaced - contextualize with epidemiological data on leprosy in Colombia

- Page 4 (lines 17 to 21) - as it is written it seems that the study was carried out on children from all over Colombia; when in fact it was from a municipality? state? - rewrite making the goal more synthetic.
- The variables presented in lines 22-24 should be shifted to the methodology.

**Methods**
- Lines 32 to 41 - I recommend better detailing the process of obtaining the serum samples and patient information - I suggest creating a separate topic just by explaining this step that is as important as the serological evaluation
- Lines 32 to 41 - these children and adolescents and during which period? The sample calculation process was not properly explained
- If possible give more information on the criteria of choice of these regions; their representativeness in the country, socio-demographic data and burden of leprosy in these communities.
- What are the data sources? Make the whole process of data collection clearer
- If it is possible to cite a reference or insert in the supplementary material the data collection instrument
- Lines 52 to 55 - If possible, I recommend that other socio-economic variables related to leprosy be included

**Results**
- Lines 26-39 - How many? what are the eligibility criteria? What is the study population? The highest proportion of participants were from which regions?
- Lines 44-45 - inform on the methodology or insert reference regarding the socioeconomic categories established by the Colombian government
- Page 9 - lines 13 and 51 - inform or refer to the methodology on this cohort
- Page 10 - line 24 - I consider inappropriate to infer risk since it is a cross-sectional study
- Reducing the number of tables and figures is essential. It has many tables that can be synthesized in 3 at the most. These regressions were adjusted by which variables?

- Table 1: Insert a footnote with the meaning of the acronyms of the clinical forms of the index cases. Is this table essential? The table is not self explanatory - it is not clear what the title and the first row of the table mean
- Improve figures resolution
The session of results and discussion is too long and confusing for the reader. I recommend synthesizing highlighting the main findings

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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