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: 5 Date: 27 Apr 2019

Reviewer: Kevin Escandón-Vargas

Reviewer's report:

REVISION #6

- Page 3 Line 14: delete "and".

- Page 4 Line 39: change "household contact (HHC)" to "HHC". This is because you previously used the abbreviation in page 3 line 32.

- Table 2: change "0,001" to "0.001".

- Table 4: change "0,2" to "0.2".

- Table 4: change "5,5" to "5.5".

- Table 4: The following three OR estimates and their 95% CIs are incorrect: 0.2 (0.59-0.67), 0.22 (0.68-0.72), 0.25 (0.46-1.4). Please note that the estimate HAS to be within the 95% confidence range.

Because you did not address this comment, I used https://www.medcalc.org/calc/odds_ratio.php to make the calculations myself.

What I found is:

- It is 0.059, not 0.59. (first estimate) This way OR = 0.2 is within the range.

- It is 0.07 (rounded from 0.068), not 0.68. (second estimate) This way OR = 0.22 is within the range.

- It is 0.05 (rounded from 0.046), not 0.46. (third estimate) This way OR = 0.25 is within the range.

Please check your results log and let me know if I'm right.

- Page 11 Line 14: change "MB" to "multibacillary (MB)". Line 17: change "multibacillary (MB)" to "MB". This is because you first use MB in line 14, not line 17.
Page 11 Line 23: This is not clear. In the supplementary file (Validation of multiple regression approach for IgM antiNDO-LID), I do not see an analysis related to the claim "Surprisingly, anti-NDO-LID antibodies detected by Protein A, IgM or IgG showed similar rates between MB or PB cases (p-value > 0.05)". The variable you refer to is "WHO classification" which has the values MB and PB. This variable is not even mentioned in this file. Furthermore, the other suppl file "Binomial logistic analysis" is not uploaded in the system. Make sure to also clarify this issue.

Table 5: change "CI 95%" to "95% CI".

Table 5: change "exposition" to "exposure".

Table 5: Similar to my comment with regard to Table 4, here I found three OR estimates and their 95% CIs which are incorrect: "Time of exposure": 0.186 (0.3-1.1) 0.32 (0.68-15.6) 0.18 (0.19-1.8).

I guess this is because of typos too. Unfortunately, I do not have the data needed, as I did in Table 4, to run the analysis for you (and I won't run your multivariate analysis). So, please I ask you to carefully check and find where the typos are.

Page 16 Line 6: please see "the studied population, [9,20]." Please delete the "," after "population", which is NOT right. In your last revision you deleted the "," after the word "elimination" (page 11 line 32) because you misread my comment. This comma WAS right, please write it again.

Page 17 Line 54: Write "Declarations" as a title before "Competing interests".

Page 22 Line 14. Fig 1 legend: change "lower-lower" to "low-low".

Page 23 Line 11. Additional files section: please enumerate the supplementary materials, e.g., "Supplementary material 1", and so on.

In Additional files you list (please see my comments at the end of each line:

Supplementary material: "Binomial logistic analysis". THIS FILE IS NOT CURRENTLY UPLOADED, YOU DELETED LAST TIME. SO, DOES IT EXIST OR NOT?

Supplementary material: "Validation of multiple regression approach for IgM antiNDO-LID" THIS IS OK.

Supplementary material: Ethics approval and consent form. DELETE THIS LINE.

Supplementary material: Track changes. ALSO, DELETE THIS LINE.

Please delete the Supplementary materials Ethics approval and consent form FILES which you uploaded as supplemental files. Be careful: DO NOT delete, as you did time ago, the written parts of the Declarations section (page 18 lines 47-58), they are fine.
- Fig 1: again, please add x-axis labels for the six graphics in A and B. (A: "Socioeconomic status", B: "Geographic region"). For reference, please note that 1C graphics do have their three x-axis labels "Socioeconomic status (low-low)".

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

Yes

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

Yes

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

Yes

**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 am able to assess the statistics

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

Acceptable

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Please complete a declaration of competing interests, considering the following questions:

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