Author's response to reviews

Title: Clinical, epidemiological, and spatial characteristics of Vibrio parahaemolyticus diarrhea and cholera in the urban slums of Kolkata, India

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Author's response to reviews: see over
Dear Editor,

Please find below our responses to the reviewers. The changes in the manuscript are shown in bold. We hope that we have adequately addressed all the issues raised by the reviewers.

Best regards,
Mohammad Ali

**Responses to the reviewers’ comments**

**Reviewer #1**

The figure 2 is not clear. It should be presented in a monthly base but for all years analytically

Responses: We think the reviewer has referred to Figure 1. We have now showed it in monthly base for all the years in Figure 1.

**Reviewer #2**

Major compulsory revisions

**Methods**

The Methods section should include a more detailed description of the variables in analysis and the type of study developed (Observational population study with an ecological spatial component analysis – cluster analysis-).

Responses: As suggested by the reviewer, we have included the following lines in the Method section

“This is an observational population based study in which the population was classified in clusters of residential dwelling units. The study participants were geographically identified based on their residence, and this spatial component was included in the study. Several demographic and socioeconomic variables that were thought to be independently associated with the risk for the diseases were evaluated in the study. However, this is an exploratory analysis of a secondary data source.”

I suggest defining cholera as the principal outcome and mentioning the most important exposures, predictors and potential confounders. If not, probably you should state that you have developed an exploratory analysis of a secondary data source.

Responses: We have stated that this is an exploratory analysis of a secondary data source.

In order to assess associations, you have developed a multivariate forward stepwise approach of variables selection. You should specify that table 5 refers to the last model based in your selection algorithm. You should specify that you have developed an exploratory multivariate analysis using and forward stepwise approach.

Responses: We have now mentioned in the Method section that this is an exploratory analysis. We have revised the text in the Results section as “The results of the multivariable models for *V. parahaemolyticus* diarrhea and cholera that used the data of the Table 3 in a forward selection algorithm are presented in Table 4 and Table 5, respectively.”

I suggest adding to the methods sections any efforts to address potential sources of bias in your study as you do when you specified that the analysis has been limited to residential dwellings assigned to placebo.
Responses: This study is cluster randomized trial, therefore we limited our analysis to residential dwellings assigned to placebo to avoid the source of bias. This has been stated in the Method section. The other problem is the use of passive surveillance data which may not represent the true incidence rate in the community, and this has been stated in the Discussion section as a limitation of this study.

Finally, I suggest describing how quantitative variables were handled in the analyses and describe which groupings were chosen, and why.

Responses: The quantitative variables in this study were employed as dimensional as well as binary category (lower than median values and median and above), as shown in Table 3.

Results

Table 5 show a non-significant factor risk (Individuals living in a household using safe toilet) although you have stated in the methods section that only significant variables have been chosen in your forward selection algorithm.

Responses: We noticed the problem in the text. It is the model p-value, and not the p-value of the variable estimates. We have revised the text as “Final adjusted risk estimates were obtained from the model significant at p<0·05 in a forward selection algorithm.”

Table 5 should show or specify the reference categories for all the variables.

Responses: The reference category for each variable in Table 5 is self-explanatory. For instance, the reference category for variable “Individuals 5 years and above” is “Individuals NOT 5 years and above” Similarly, for the variable “Individuals living in a household with important economic contributor having stable occupation”, the reference category is “Individuals NOT living in a household with important economic contributor having stable occupation”.

Discussion

Authors should have included a conclusion after the discussion. I suggest adding in your conclusion what this research is adding to the general knowledge of cholera research after a Public Health perspective. You should use as you did in the introduction section “there is not much information on the differences in clinical, epidemiological and spatial characteristics of diarrhea due to Vibrio Cholerae and V parahaemolyticus from non-coastal areas” in order to justify that you have found some distinctive risk factors and spatial patterns in non-coastal areas.

Responses: As suggested by the reviewer, we have added the Conclusion section as given below.

“There is not much information on the differences in clinical, epidemiological and spatial characteristics of diarrhea due to Vibrio Cholerae and V parahaemolyticus from non-coastal areas, and we observed some distinctive risk factors and spatial patterns of risk for diarrhea due to cholera and V. parahemolyticus suggesting different modes of transmission of these two pathogens. This information may be helpful for the health policy makers. However, further research is needed to delineate the modes of transmission of the two vibrios.”

Minor Revisions

Tables should not show grid-lines between the different rows. I suggest adding in columns’ headings (tables 1 to 3) the following convention: n(%)
Responses: We have omitted grid-lines between the different rows and fixed the columns’ headings as appropriate.