Author’s response to reviews

Title: Zika virus disease, microcephaly and Guillain-Barré syndrome in Colombia: epidemiological situation during 21 months of the Zika virus outbreak, 2015-2017

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Author’s response to reviews:

Archives of Public Health. AOPH-D-17-00082.


Reviewer reports:

All the suggestions made by the reviewers were carried out, in yellow color the changes.

Reviewer reports:

Reviewer #1: I would like to thank the authors for all this amount of work. Thank you also for addressing correctly the comments I suggested. The revised manuscript has been improved and I would also like to thank the other two reviewers for putting all this effort.
Conclusion: I believe that it's a valuable manuscript and should be considered for publication in "Archives of Public Health".

General comments

*I would suggest that manuscript should be edited for language.

REPLY/ Changes were done.

*The abstract is still 375 words (more than 350) is it an issue?.

REPLY/ Summary actually has 348 words.

*I think that the authors in the effort to address all the reviewer's comments made the structure of the manuscript a bit fuzzy.

REPLY/ The structure of the paper was again reviewed, with emphasis on statistics model of Kernel ridge regression.

*As I mentioned before it's rather difficult for the inexperienced reader of this journal to understand the value of performing "kernel ridge regression" approach to predict the number of Guillain-Barre cases given the number of ZVD cases. The authors tried to simplify it but I really find it difficult to follow. I suppose there are readers that are more familiar and will find it interesting.

REPLY/ In order to make easier the math model, corrections were carried out, see page 9.
Minor (optional) comments

*Lines 980-984 may be part of the discussion? Do you need to explain here why you used kernel trick in methods?

REPLY/ In order to understand the Kernel method, it is important in the methods the detailed explanation of why we adopted the method. Thus, we consider that the paragraph should be kept in methods.

*Lines 1047-1048: Please indicate in the table that ARs are per 100,000 population. REPLY/ Correction was carried out, see table 2.

*Line 1051: "areas with high concentration of cases" may be it would be more clear if you define the term "high concentration".

REPLY/ The recommendation was taken into account, currently the areas with high concentration of cases or high intensity of cases per unit of surface were included in methods, page 8. With the definition in methods, we believe that it is not necessary to put in results.

Reviewer #2: I have added a number comments in sticker notes in the pdf file of the manuscript. The general comment is that the authors need to tighten on the main message they want their readers to focus on. It appears many ideas (including economic impact) were brought in. More than one or two ideas in a paper, the third point you out to write another one. The authors needed to appraise the quality of public data including the missing data variables. A critical appraisal of data insulates from most of analysis flaws.

Abstract

*Line 845. Average number of cases.

REPLY/ The correction was made. Page 2
*Line 845. Attack rate (AR)
REPLY/ The correction was made. Page 2

*Line 847. Re-order. Weeks and months.
REPLY/ The correction was made. Page 2

*Line 851. had been.
REPLY/ The correction was made. Page 2

*Line 854-855. it appears the cases of.....
REPLY/ The correction was made. Page 2

Introduction

*Line 888. By March 10, 2017.....
REPLY/ The correction was made. Page 4

*Line 894. Reference.
REPLY/ The reference was included. Page 4

*Line 901. Reference.
REPLY/ The reference was included. Page 4
Methods

*Line 938. which presents with a......
REPLY/ The correction was made. Page 7

*Line 940..or..
REPLY/ The correction was made. Page 7

Results

*Line 1015. Reporting must be consistent. Reporting percentages and followed by AR. Inconsistency in reporting makes it confusing.
REPLY/ The correction was made; percentages were first included followed by AR. Page 11

*Line 1020. Good table but needs formatting. And also the employing the concept of 'significant' numbers in the % column.
REPLY/ The correction was made, ZVD cases % were corrected at one digit. See table 1.

*Line 1032. Outbreak was first reported in October,...
REPLY/ The correction was made. Page 12

*Lines 1046-1048. Very important table showing the distribution of the ZVD in Columbia by State. Some kind of ordering is needed, either States are groped according to alphabetical order or higher/lower AR-----and this needs to be shown in the title to guide the readers.
REPLY/ States were grouped according to alphabetical order. See table 2.
Discussion

*Line 1122. This study provides the first general analysis of ZVD in Columbia in the period............

REPLY/ The correction was made. Page 18.

*Lines 1122-1123 What is the main message arising out of this work? This needs to come out here.

REPLY/ The correction was made including the paragraph: the enclosed paper shows that Zika virus disease has had a huge impact on public health in Colombia for the numbers of people affected and the presentation of Guillain-Barre syndrome and microcephaly cases associated to Zika virus disease. This study updates the epidemiological analysis of the Zika virus disease situation in Colombia describes the geographical distribution of Zika virus disease and shows the numerical relationship between Zika virus disease with microcephaly cases and Guillain-Barre syndrome. Page 24, Conclusions.

*Lines 1130-1131....higher attack rates compared with.....

REPLY/ The sentence now was restructured “higher attack rates compared with total population… Page 18

*Line 1132. enhanced surveillance.

REPLY/ The correction was made. Page 18

*Line 1132. population sub-group.

REPLY/ The correction was made. Page 18

*Line 1133. Re-arrange the sentence to make more sense.
REPLY/ The sentence was reorganized, “Among the pregnant population, higher attack rates compared with total population were observed, but this situation has already been described previously in Colombia [22] and may be associated with an enhanced surveillance in this population sub-group due to congenital malformations that produces the diseases, such as microcephaly and other congenital malformations of the central nervous system”. Page 18

*Line 1137. Quote the attack rates ranges for the age-groups.

REPLY/ The correction was made. Page 19

*Line 1139-1141. In your dataset, nor elsewhere this is not evident. Unless if you provide a reference to this, its not tenable. Besides the >65 years have the lowest attack rate which may be explained by some other immunological reason(s). REPLY/ The correction was made now the reference is included. Page 19

*Line 1140-1141. Good point but difficult to quantify. The authors may recommend another study to look at this. Besides, this was beyond the scope of this study. REPLY/ Recommendation was followed the sentence was changed, Page 19

*Line 1155-1157. Re-arrange this sentence to make sense to the reader.

REPLY/ Sentence was corrected. Page 20

*Line 1168. I am very uncomfortable with the phrases 'worrying' and 'alarming'. I suggest the authors specifically report their observations as they're than tagging such phrases.

REPLY/ Sentence was corrected, “The cases of ZVD in Colombia are decreasing, nevertheless, it is possible that new cases of microcephaly associated a ZVD.”. Page 20

Line 1246. Data limitations like absence of disaggregate data by age-group and absence of disaggregate data by altitude. Such data is vital in control.

REPLY/ We took into account the recommendation. Page 24, Conclusions.
Reviewer #3: I would like to congratulate the authors for their hard work in improving manuscript to the publication level.

Editorial comments:

1. The manuscript should give a careful language revision. Some problems such as omission of a capital at the start of the sentence are easy to solve.

REPLY/ Revision was done.

2. In the abstract bring the abbreviation KRR directly after the full text when used first.

REPLY/ Correction was done. Page 2

3. In the abstract the period for the kernel density map is October 2017-June 2017. Is this correct?

REPLY/ Correction was done. Page 2

4. In title of tables, figures do not use abbreviations. In titles of columns you can use abbreviations with * to explain the abbreviation in the legend.

REPLY/ Corrections were done.

5. Some titles of tables and figures are still missing information on time.

REPLY/ Corrections were done, now period of study is included.
6. Table 1: column %: use the same number of digit for all row x.xx or x.x // delete (and ) in rows age 55-59 and 60-64.

REPLY/ Corrections were done.

7. List of references: review for errors, and adapt to journal requirements.

REPLY/ Corrections were done.