Author’s response to reviews

Title: Exploring variations in childhood stunting in Nigeria using league table, control chart and spatial analysis

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Author’s response to reviews:

24th January 2013

The Editorial Team:

Re: Exploring variations in childhood stunting in Nigeria using league table, control chart and spatial analysis

I am pleased to submit a revised manuscript referenced above according to the reviewers’ comments. I have made every effort to revise our manuscript based on the reviewers’ suggestions and recommendations, which we believe made our paper stronger and better.

In the following pages we provide a point-by-point response to the reviewers’ comments. We have put the comments in bold and inside quotation marks, with response below each comment.

We would like to thank you in advance for your consideration.

Yours faithfully,
Dr Victor Adekanmbi
For Authors

Reviewer: 1

OVERALL COMMENT:

This is an interesting manuscript that applies spatial techniques to bring a clearer understanding of the distribution of severe childhood malnutrition, “stunting”. The methods are not well described therefore I am unable to decide if they are appropriate for the data at hand or not. The authors should carefully edit the manuscript to improve the readability & present the appropriate information in appropriate sections.
Reply: Thank you for the encouraging comments. The revision had been done as indicated below. Generally your remarks were very useful and thought-provoking.

Major Compulsory Revisions:

1. One major point is: Could authors comment on whether population density is important in this analysis and this should be discussed. Absolute numbers and Graphical presentation may be very important in policy making when comparing say a very small population with a lot of stunting to a larger population.

Reply: Thanks for pointing this out. We have now described in detail exploratory spatial analyses. These involved comparison of neighbourhood density and pattern of stunting in calculating the autocorrelation. Using only absolute number may be misleading due to differences in the number of children samples from each State.

2. In Background, paragraph 1, first line, the authors state “Stunting, linear growth retardation is the best measure of child health inequalities as it captures the multiple dimensions of children’s health, development...”

But I believe this is a strong claim as there are other types of measures such as “wasting” could authors comment on this?

Reply: Thanks for pointing this out. We have now included better explanation as stated below;

Stunting, linear growth retardation is the best measure of child health inequalities as it captures the multiple dimensions of children’s health, development and the environment where they live. It is a chronic condition that reflects poor linear growth accumulated during pre and/or postnatal periods because of poor nutrition and/or health. It is more difficult to treat than wasting; which is an acute form of under nutrition. Its relationship to micronutrient deficiencies, obesity (particularly the abdominal type) and chronic diseases makes it an important health hazard even for countries in transition. Depending on the references and criteria used, stunting is defined as somebody with a height-for-age either below the -2 standard deviation from the median or below the 5th percentile in height-for-age.

3. In Background, paragraph 1, line 4, “....and the trend is expected to reach 21.8% by 2020.....” but this is not a trend it is a prevalence as such it should be re-phrased it.

Reply: This has been corrected

4. In Background, paragraph 2, line 3-4, “....the effect and impact...”, aren’t they the same?

Reply: We have rectified this

5. In Background, explanations regarding what the “League Tables” are should move and/or incorporated in to the method section.

Reply: Thanks for this useful information. We have now incorporated it into the
method section.

6. In METHODS section, sampling technique: is this the first study to describe this sampling technique for this population? If not has the method been published anywhere else? If so, perhaps reference should be provided.
Reply: We have now included references where the sampling technique has been published before.

7. In METHODS section, sampling technique: outcome variable is “stunting” and should be derived using HAZ with the appropriate referencing, there was no referencing.
Reply: We have put appropriate references.

8. In METHODS section, Exploratory spatial data analysis: author’s mentioned “a test of a null hypothesis”, what is it? Could they state the null hypothesis tested? Also there is no reference how the methodology was applied? Any software used?
Reply: We have now included in the methods section how the hypothesis was tested and the software used for the analysis.

9. What is “Spatial autocorrelation”? How did they obtain those plots? There is no explanation in the method regarding how Figure 3 was produced. Was it population adjusted?
Reply: This has now been described in detail in the methods section.

Discretionary Revisions

10. I do not see benefit of the funnel plot.
Reply: We used funnel plot to complement findings from spatial autocorrelation and league table.

Reviewer: 2

1. Background: Provide a more accurate definition of stunting. It is not enough to say that stunting is linear growth retardation. Stunting is a synonym of chronic undernutrition and is assessed by height-for-age. Depending on the references and criteria used stunting is defined as somebody with a height-for-age either below the -2Standard deviation from the median or below the 5th percentile in height-for-age.
Reply: Thanks for pointing this out. We have now provided a more accurate definition of stunting as suggested.

2. Methods

What are the age-ranges included in the analysis?
Reply: The age-ranges have now been included.

3. What is ICF Macro at Calverton?
Reply: ICF Macro at Calverton is the name and address of the company that provided technical assistance as well as funding to the survey through MEASURE DHS (Demographic and Health Survey), a project funded by the United States Agency for International Development (USAID) that provides support and technical assistance for the implementation of population and health surveys in countries worldwide.


Reply: Clarification has been done as requested. The reference population is the WHO reference population.

5. Please add the number of children assessed their age-ranges and sex ratio in the methods. The first time we read about these is on the first line of the results.

Reply: The age ranges and sex ratio have been included into the method section.

6. Discussion: What do the authors mean by “special practices” that may be related with the lowest values of childhood stunting? Why do you think this happens? In the discussion some possible reasons for the variation in stunting should be suggested. Just saying that “further studies are needed” is not enough.

Reply: Thanks. Some possible reasons for the variation observed have been suggested and example of special practices related to low values of childhood stunting in southern states given.