Reviewer’s report

Title: Determinants of stunting and severe stunting among Burundian children aged 6-23 months: evidence from a national cross-sectional household survey, 2014.

Version: 0 Date: 04 Feb 2017

Reviewer: SK Sebayang

Reviewer's report:

The paper presents an important issue not only for Burundi but also for other developing countries globally. The large dataset allows the authors to undertake deeper analysis so that the results will be more useful for policy makers to decide on priorities for intervention. I would encourage the authors to extend their analysis to estimate population attributable fraction for the various factors for stunting and severe stunting.

Detail comments:

Abstract:

1. Methods: Write all covariates analysed

2. Results: Line 41: Why are there two AdjOR quoted (1.5 and 2.7)

3. Conclusion: this seems different from the conclusion in the text.

Full text: There are a few typos that need correction

Background:

1. Line 69 - 70: I assume less schooling and reduced economic productivity were for the stunted children and risk factors for child undernutrition is for the children of the stunted children. Please make this clear.

2. Line 97: Please add scope. Does Burundi has the highest prevalence of stunting globally or in Africa?

Methods:

1. How were the children selected for measurement? Did the interviewers go to every household in sous-colline?
2. Please state more clearly how the quality control of data collection and data entry was conducted.

3. Is there a reference for the use of mother's satisfaction about child's nutritional status as a proxy for maternal knowledge of malnutrition?

4. Did the authors used the twenty four hour recall data collected for the analysis of child feeding practices? Please be clear.

5. The authors included source of drinking water as a factor. Is sanitation information also available for analysis? Please see the following paper for comparison:


6. Statistical analysis: What type of statistical analysis was used to analyse the data?

7. As mentioned above I would encourage the authors to extend their analysis to estimate population attributable fraction for the various factors for stunting and severe stunting so that the results will be more comprehensive to help policy makers decide on short term and long term intervention.

8. There may be more than one children measured in a household. Please state how many household had more than 1 children measured. How did the authors adjust for clustering at household level?

9. How do the results look when only data from the last children were analyzed?

10. Line 218: It's good that colinearity and interaction test is stated in the method but the fact that colinearity and interaction was not found should be moved to the results section.

Results:

1. I suggest the author change the reference for Place of delivery, maternal education, mother's nutritional status, marital status, head of household's education, number of children under 5, Arrable land, and Socioeconomic status so that the results show increased odds.

2. Line 222. The author quoted 53.1% while the Table shows 53% for the prevalence of stunting. There are many numbers that are different in the text compared to the tables. Please correct all incorrect numbers in the text or Table accordingly.

3. Line 235. By 'normal' did the author mean 'correct'?
4. Line 237. Please check for the correct way to quote numbers in the beginning of a sentence.

5. Line 240. Please add 95% Confidence Interval. Please do the same for all numbers without CI in the Results section.

6. Line 242. Please quote Odds Ratio and 95% CI.

7. Line 270 - 272. This sentence should be moved to methods section. Please explain what the authors mean by 'improves the model the most'?

Discussion

1. Please write the discussions with the following format:

   a. Main findings
   b. Comparison with other studies
   c. Possible mechanism/explanation of the findings
   d. Weakness and strength of the study
   e. Implications for future research or policy

2. What is the possible explanation for the reason why place of delivery, maternal education and incorrect assessment of child nutritional status were found to be significant predictors for stunting but not for severe stunting.

3. Please state the possible explanation for the lack of association between stunting and breastfeeding as well as minimum acceptable diet, water and sanitation.


5. Line 312. Add reference after LMIC

6. Line 337. Is mother's ability to assess her children nutritional status associated with her education?

Conclusion: Don't add more discussion here. Just conclude from the results and discussion.

**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.

Unable to assess

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

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

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