Author’s response to reviews

Title: Nutritional Status of In-School Children and its associated factors in Denkyembour District, Eastern Region, Ghana: Comparing Schools with Feeding and Non-School Feeding Policies

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RESPONSE TO REVIEWERS COMMENTS

Manuscript Title: Nutritional Status of In-School Children and its associated factors in Denkyembour District, Ghana: Comparison of School Feeding and Non-School Feeding

<table>
<thead>
<tr>
<th>No.</th>
<th>Reviewer’s Comment (#1)</th>
<th>Author’s comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Did they have a sample size calculation, the paper does not mention it? Authors should elaborate on how many participants they needed in total and how they arrived at that number.</td>
<td>Subheading on sample size determination included in 2.4 under methods.</td>
</tr>
<tr>
<td>2.</td>
<td>Where the any information collected on dietary intakes? Can you include them in the logistic regression for determinants of nutritional status</td>
<td>Information on dietary history of participants have been included in 3.2 under results. These variables were not significantly associated with the outcomes, the reason they were not included in the regression analysis.</td>
</tr>
<tr>
<td>3.</td>
<td>In table 4, there is comparison of overweight (3) against non-overweight participants. This seems not to be right statistically considering the numbers involved three (3) in overweight category against three hundred and fifty six (356) in non-overweight category is an unbalanced comparison with insufficient power to determine a difference.</td>
<td>The variable is mother’s occupation and it was included because of its statistical significance though there were only 3 people with the outcome (overweight).</td>
</tr>
</tbody>
</table>
4. Table 4 looks confusing. The first row in table 4 reads Attribute, 'Not overweight overweight' - Pearson chi square, AOR(95% CI) please clarify. This label suggests that all the statistics in the table are on overweight and non-overweight. Yet, measurements of attributes such as stunting and thinness are present.

* Revised first row in table 4 to read Attribute, N (%), N (%), Pearson chi square, AOR(95% CI).

* Overweight versus non-overweight can be in a different row

• N=(%) notation in row 2 of table 4 is so confusing as well should read N (%)


6. Furthermore, a more worrying findings in this study was the high prevalence of thinness found among children on feeding programs which may conclude that the feeding programme is not having any positive influence on the nutritional status of the children involved as far as thinness is concern."

I think the scope of the research design
does not allow for such a statement to be made, the study is a cross sectional design, if there was a baseline assessment prior to feeding program implementation and compared both time points, then it could have said that the feeding did not make a positive impact on thinness. That is if the schools in the district had a prevalence of thinness of 5% and now you are seeing 9.3%, the above quoted statement from the paper can be made. Here is the case the paper does not provide information about thinness in the district prior to implementation of the feeding program

Reviewer’s Comment (#2)

1. Title: "comparison of feeding and non-feeding schools" can be misinterpreted so suggest rephrase.  
   Title has been rephrased

2. Conclusion - since it cannot be said with certainty that these effects were caused by the school feeding programme these findings need to be restated with more caution.  
   This has been revised

3. Background: Is there information on the general prevalence and trends of malnutrition in children in the district?  
   No data to that effect

4. Methods
5. More information on level of poverty among districts in the area and criteria for selection of schools for the school feeding programme will be useful baseline information.  
   No data to that effect. However, data collected in the course of this study shows it’s predominantly a farming district

6. Separate section on the study design and duration of the study is needed  
   This has been included in 2.3 under methods

7. Who were the respondents, were they the parents? It will read better if captured as a sub-heading, study population  
   A subheading ‘Study population’ has been included in 2.2 under methods.
8. Page 3 Line 50: What kind of data was collected by the face to face interviews? 
   This was addressed in 2.6 under data collection

9. Page 5 lines 52-54. What make of instruments were used for the measurements? 
   Both electronic and mechanical scales were used for weight after which average weight was taken. Stadiometer was used for height instead of microtoise stated initially. Age was taken from the school registers.

10. Briefly outline the classifications or cut-offs you used to determine wasting, stunting, thinness and overweight and provide more detail on how the measurements obtained e.g. BMI, was it calculated manually or a software was used? 
    The calculations were made using WHO Anthroplus software version 10.4. The cut offs were provided in this software.

11. The number of Muslims is more than the number of Christians, though the 2010 census reported 80.3% Christians to 11.5% Muslims in the district so kindly check the analysis again.
    This has been corrected in table 1

12. Page 9 line 26: I note that there were no obese children was that the case? 
    Yes, we found 3 children that were overweight but not obese

13. More information is needed on the multiple regression model 
    This has been addressed in 3.5 under results

14. Page 11 line 22-24: As you pointed out, the study is not robust enough to assess impact well therefore you do not need to mention it here. 
    This has been modified

15. Page 11 line 38-42: What about poverty levels within the district, could they have contributed to the finding? 
    It could be since majority of the people in the district were either farmers or involved in menial jobs.

16. Page 12 line 13: it might be better to suggest that it could be a reflection of the nutrition transition rather than say it demonstrates a state of nutrition transition. 
    Changes have been effected

17. Page 12 line 18-33: It needs to be clear that this is a speculation and not conclusive 
    This has been addressed
evidence since a child's starting nutritional status may have improved after joining the school and the nutritional programme and still be appear malnourished if the child was very malnourished to begin with as this study has not been designed to detect this

<table>
<thead>
<tr>
<th>Page</th>
<th>Line</th>
<th>Original Text</th>
<th>Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>31-32</td>
<td>Could this be a reflection of poverty in the district or the criteria for choosing schools for the school feeding programme?</td>
<td>Yes, it could be, input considered</td>
</tr>
<tr>
<td>12</td>
<td>54-55</td>
<td>it could also be affected by excessive calories from carbohydrate intake intake so rephrase.</td>
<td>Has been rephrased</td>
</tr>
<tr>
<td>12</td>
<td>54-55</td>
<td>You could provide more detail on how these challenges are affecting the operation of the programme and nutritional status</td>
<td>This has been addressed</td>
</tr>
<tr>
<td>12</td>
<td>54-55</td>
<td>To use more references from journal articles in the discussion</td>
<td>This has been addressed</td>
</tr>
<tr>
<td>12</td>
<td>54-55</td>
<td>On causality you may also look at the Bradford Hill criterion for causation</td>
<td>This has been addressed</td>
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<tr>
<td>12</td>
<td>54-55</td>
<td>There may be other limitations such as, not knowing the effect of challenges facing the programme such as missed and regularity of meals etc</td>
<td>This has been included in limitation</td>
</tr>
<tr>
<td>12</td>
<td>54-55</td>
<td>The conclusion is not supported by the objective of the study and a more robust design is required to arrive at the conclusions you have drawn</td>
<td>This has been revised</td>
</tr>
<tr>
<td>3</td>
<td>42</td>
<td>Burden of what? Disease?</td>
<td>Changed to burden of disease under introduction</td>
</tr>
<tr>
<td>11</td>
<td>46</td>
<td>gendre - did you mean &quot;cadre&quot; corrected</td>
<td>Has been corrected to cadre</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>subsequently -perhaps can</td>
<td>Changed to consequently under discussion</td>
</tr>
</tbody>
</table>
be changed to "consequently"

28. Some copy editing needed

Discretionary corrections:

Done

29. Page 2 line 9: Ameliorate -perhaps could be changed to improve?

Ameliorate has been changed to improve

30. Page 3 line 5: Implications -perhaps problems would be a better word

Has been changed

31. Page 3 line 27-30: suggest you remove "and" to read as "as well as increasing the risk"

Has been addressed

32. Page 3 line 49: suggest you remove "the" before national-scale

Has been revised

33. Page 6 line 35: suggest you remove "too" before tall and to read "...of tall stature"

Done under results

34. Page 11 line 26, 27: perhaps you could replace "in regards"?

Has been corrected

35. Page 11 line 29: perhaps "in" can be changed to "of"?

Has been corrected