Reviewer’s report

Title: Relationship between breakfast consumption, BMI status and physical fitness of Ghanaian school-aged children

Version: 2 Date: 04 Mar 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

No - there are major issues

Statistics - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?

Maybe - with major revisions
GENERAL COMMENTS: This is an interesting paper which provides the demographics and explore the correlation between BMI, physical activity, physical fitness and breakfast consumption in school-aged children living in Ghana. The paper is generally well written. However, the results provided for some measurements are questionable and need further justification by the authors. Also, some data reported in text and figures are not coherent with the ones reported in text. Finally, data could be presented differently in tables to improve clarity. I am providing specific comments below.

REQUESTED REVISIONS:

Specific comments:

Abstract:

Define BFA and MUAC in the abstract before you use the acronym.

Please explain that overweight was higher in girls (22.2% vs. 11.2%), as this is not clear.

Please provide the unit for physical fitness, 50 m run.

Background:

Page 3, line 5 - Please provide the reference

Page 4, line 56 - although MUAC is explained in the list of abbreviation, it needs to be provided in full on the first time it appears in the text.

Page 5, lines 17 to 60 - This paragraph is too long. Please provide a new paragraph every time you introduce a new measurement. E.g. Line 25 - hand grip; Line 30 forward jump; Line 35 sit up; Line 49 - 50 m run; Line 53 - physical fitness.

Results

Page 7, line 8 please provide the units - years

Page 7, line 19 - please add "respectively" after 16.9%. Also, this is different from the data presented in figure 1, so please explain which one is accurate.

Page 7, lines 21 to 23 - please explain if the data provided for thinness and overweight were significant.

Page 7, line 24 - please say that significant association was found for BMI for age rather than nutritional status.

Page 7, Table 1 - please present mean difference and SD between boys and girls rather than total.
Page 7, Table 1 - is the data provided in brackets for thinness, normal and overweight the SD. If this is the case, please present it in the other column.

Page 8, Table 2 - the average data for forward jump (around 4-5 cm) and from sit up (around 3-4 repetitions) are really low. This can't be right, please check.

Page 9, Line 9 - BFA needs to be provided in full in the manuscript for the first time it appears.

Page 10, Table 5 - the second line is not needed the explanation that the results are r and p-value could be presented in the title of the table.

Page 10, line 25 - the values of breakfast consumption don't add up to 100% - 80% consumed and 21.1% did not consume.

Page 13, line 51 - please add that is "greater muscle mass" and not only greater muscle.

Page 13, line 55 - please change to "lower muscle mass" and "Loss of muscle mass".

Page 14, line 31 - this sentence is unclear, please complete to clarify "In this study, children who reported to consume breakfast and those had similar BMI for age."

Page 14, line 44 - I think it is important to emphasise in here that data was self-reported

Page 15, lines 8 and line 12 - please provide the surname of the author and year rather than saying by and a number (references 36 and 37).

Ethics - please provide ethical approval number.

ADDITIONAL REQUESTS/SUGGESTIONS:

This was provided above.

Note: This reviewer report can be downloaded - see attached pdf file.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

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

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

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