Reviewer's report

Title: Prevalence and correlates of overweight and obesity among school children in an urban district in Ghana

Version: 0 Date: 14 Jul 2018

Reviewer: Rebecca Liu

Reviewer's report:

- Please consider using first person language i.e., children with obesity, children who are overweight, etc.

- Please be consistent with BMI categorization, it would be preferable to consider the categories as underweight instead of thin, and normal weight instead of healthy weight

- Please consider the use of the oxford comma throughout your manuscript

- Please consider grammar and sentence structure throughout

- Also please stay consistent with verb tense

- Please consider difference between sex and gender and their consistent use throughout the manuscript

- Please consider division of paragraphs (some paragraphs with only 2-3 sentences)

- Please clarify that screen time was used as a measure of sedentary behaviour in methods (later only used "screen time" in the discussion)

Background/Introduction

- 1st sentence (line 30) a bit awkward, suggest changing it to "to be a major public health concern globally"
2nd sentence (line 31) is missing a reference also what constitutes a developed country vs. developing country OR what country/countries observed the prevalence of boys and girls, including how old were they (given the study focuses on 8-11 year old children)?

- Suggest starting 2nd sentence with "In 2013, approximately 24% boys… overweight or obese in developed countries" which flows well into next sentence (3rd sentence), "During the same period…"

- 3rd sentence (line 32), again, I would be curious to know which countries were referenced as developing in reference #3.

- 4th sentence (line 33), suggest "In sub-Saharan Africa, a region made up of/concentrated with developing countries, there is growing evidence…"

- Please include a phrase to highlight the importance of the region of sub-Saharan Africa

- For ref #4&5, what is the age of the school children in the aforementioned studies

- 5th sentence (line 35), please include a reference also please consider sentence structure of this sentence

- 7th sentence (line 36), please consider "Children with obesity are at increased risk of…" instead of "Obese children" and use of oxford comma

- Not sure whether the first page is 1 paragraph or 3 separate paragraphs with 2-3 sentences each. Please reconsider division of introductory paragraph(s)

- 12th sentence (line 48), please include a reference and state the age of preschool and school-aged children which will help to inform for the next two sentences differentiating between the two age groups

- Background/introduction is very general about obesity and its implications in children, consider including specific information/literature about sex differences in overweight and obesity in children, plus including background information about potential implications of school type in school children in other studies given these are the main divisions highlighted in the results
- In addition, including literature focused on school aged children aged 8-11 years old could underscore the importance of studying this age group given it is the target population of the current study.

- The information included in the background/introduction is relevant and general ie. why is this study important? How does it compare to other research? What gap in the literature are you filling? however, literature related specifically (as stated above) to the current study would strengthen the rationale for the study in informing your audience.

Methods

- Line 62, please add references to the two cross-sectional studies in which the data was obtained.

- Line 66, please state ages/grades for primary and junior high. This may differ from country to country.

- Re: Data Collection, Dietary, PA, SB, and sleep duration (line 91), were questions read out as a group or one-to-one with trained research assistants? If read out as a group, would this impact children's self-reported questionnaire responses?

- Re: Data Collection, Dietary PA, SB, and sleep duration (line 105), what PA recommendations are being referenced (national or international guidelines?) for cut off points?

- Line 124, "measurements were done in duplicates", was the average of each measurement type taken of each child? Was it the same technician conducting the measurement (consider measurement reliability)?

- Line 131, what is principal component analysis? Is there a reference to this type of analysis? (perhaps this is only new to me.) Also what was the rationale for splitting the wealth score into thirds? Also what was considered "low", "middle", and "high"? Please include a reference or an explanation of how each category is defined.

- Line 135, please correct "comparison"
- Line 135, what was the reasoning for collapsing overweight and obesity in one category? I would be curious to see the ORs and AORs of the determinants and risk factors by the two categories individually and then collapsed together. Otherwise providing a rationale for collapsing the two into one category would suffice since the alternative would require two additional sets of analyses.

Results

- Line 144/45, include either mean or majority age of children, or perhaps consider using median? (essentially, consider using only one measure to highlight age of target population)

- Line 145, please include comparison group to "high socioeconomic category," otherwise sentence seems incomplete with percentage comparison.

o "… high socioeconomic category (stat), compared with…<insert comparison group>.

- Tables: suggest identifying significant results (p<0.05) in bold

- Line 177, please use "underweight" instead of "thin" and "normal weight" instead of "healthy weight"

- Line 189/90, please separate "middle-to-high SES status" since the p-values are later stated, separately and not together. Also please include the ORs for these values.

Discussion

- Line 218-221, please include the reference for the nutrition transition and urbanisation in the region

- Line 227, line 228, each sentence missing a reference

- Line 233, add "which is consistent/inconsistent with the aforementioned findings …?" add a short phrase of how the current study results relates to other research conducted

- line 235, is there a reference that could strengthen your assertion in the final sentence?
- Line 237, what is defined as high income? (could use developed/developing terms if previously defined in introduction for consistency)

- Line 244, please define ISCOLE

- Discussion paragraphs relating to PA, sleep, screen time (sedentary behaviour?) appear brief but could be the result of the amount of data/findings to discuss and word restrictions

  o Suggest highlighting only a few key findings from current study and how they relate to other studies so that these sections do not appear to be glossed over

- Sentences in line 256, line 257, line 263, line 269 are missing references, please revise.

- Although the limitations indicate that inferences of causality cannot be made, the conclusion contains recommendations that should be enforced as a result of the study. Suggest modifying the wording in the conclusion so that the results don't appear to be overemphasized

**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.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**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.

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