Reviewer's report

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

Version: 0 Date: 24 Jun 2018

Reviewer: Laura Anderson

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BMC Obesity review - June 2018

In the article "Prevalence, sociodemographic and behavioural correlates of overweight and obesity among school children in an urban district in Ghana" the researchers investigate the prevalence of overweight and obesity and evaluate potential risk factors from two cross-sectional studies of children 8-11 years of age in a school setting. This is a potentially important study that addresses a public health need. A few comments and suggestions for improvements are provided below:

Abstract

- More details about the measurement of the primary outcome and other exposures would be helpful. Consider indicating how data were collected and how overweight and obesity were defined.

- Do you mean to say "Multivariable logistic regression analyses…"?

- P-values are not necessary when the 95% CI are provided

- In the abstract conclusion I recommend avoiding saying that "associations were confirmed" given the cross-sectional design. It may be preferable to say something like: "Several modifiable risk factors were associated with overweight and obesity in this study"

Background

- sentence ending on line 32 needs a reference
- Line 35 - consider removing the comment that health implications cannot be overemphasized. I don't think this is true.

- Could you elaborate on the information that you provide in lines 46 to 53 about the data in Ghana? Is the Deomographic and Health Survey not a national representative survey or are the limitations the type of data/timeline/age period? For a reader not familiar with Ghanaian data sources this section is unclear.

- Are the studies referenced in 19-22 specific to Ghana - more details would be helpful.

- More specific background on the rationale for the choice of specific risk factors would be helpful.

Methods

- Could you clarify what is meant by two cross-sectional studies? Were they in different regions or timepoints? Or different data collection methods?

- More details on the sample size calculation would be helpful including a full reference for Daniels 1999.

- Please elaborate on all inclusion and exclusion criteria? Why were children with diabetes excluded? This may bias results and should be discussed in the discussion.

- How was the simple random sampling accomplished? Of the 71% that consented how many were data collected on?

- How were any missing data handled?

- Please clarify if the questionnaires were written (pen and paper by child) or oral and transcribed by RA. How were any potential biases, stigma, or privacy issues from collecting data in the group setting avoided?

- How were the duplicate measures of height and weight reconciled? Were the average measures used?
- Indicate how underweight was defined if it was included as a separate weight category in your analysis.

- Line 130 - water and sanitation are not described in the previous section on data collection. More details of this and the PCA analysis are needed. (note., this does not seem to be described elsewhere in results).

- Line 133 -Please indicate which variables were continuous versus categorical

- It sounds like you used multivariable not multivariate logistic regression

- Include units for all variable? For example, what are the units for the Physical activity score?

- Line 177 - I recommend using the WHO definitions and terminology consistently to define weight categories. It is not clear what you mean by "thin".

- Consider reporting 95% CI consistently throughout manuscript instead of p-values. For example on lines 192-197.

- Some discussion of the variable selection criteria and model building strategy, including rationale for the choice of adjusted models, would be helpful.

Discussion

- Can you compare these results from an urban area in Ghana to any other population estimates?

- Line 238: replace negative with inverse.

- It would be helpful to see a more detailed consideration of the study limitations, including potentially biases and how that may impact on the observed results. Including selection bias, limitations of cross-sectional studies, and some discussion of the representativeness or external validity of the study.
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.

Yes

Are the conclusions drawn adequately supported by the data shown?
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