Reviewer’s report

Title: ASSOCIATIONS OF OUT OF SCHOOL PHYSICAL ACTIVITY, SEDENTARY LIFESTYLE AND SOCIOECONOMIC STATUS WITH WEIGHT STATUS AND ADIPOSITY OF CAMEROON CHILDREN

Version: 0 Date: 27 Jun 2017

Reviewer: Lisa Micklesfield

Reviewer's report:

General comments

This study examines the association between proxy measures of physical activity and sedentary behaviour, and the prevalence of overweight and obesity in a sample of 522 children between 5 and 12 years from Cameroon. Although the authors acknowledge that out of school activity is only a proxy for physical activity levels, this is still a really crude measure and estimates a number of domains of activity eg. Informal, occupational and transport, and includes them all in one category. This also only includes frequency, with no measure of duration. Another limitation of the study is that the child's physical activity and sedentary time are reported by the parents/guardians. The authors do however acknowledge these limitations and the study does contribute to the literature on physical activity levels in children from Africa.

Specific comments

Background

- 3rd paragraph: although it is acknowledged that there is no documented evidence of physical activity patterns in Cameroonian children, the inclusion of anecdotal evidence in a scientific publication is not appropriate. These statements need to be referenced.

- Another important reference to include when examining the association between SES, physical activity and sedentary behaviour is in rural South African adolescents (Micklesfield LK, et al. Physical activity and sedentary behavior among adolescents in rural South Africa: levels, patterns and correlates. BMC Public Health. 2014 Jan 16;14(1):40).
Methods

- Please include details of whether there were any differences between the 87 participants who were excluded from analyses and those who were included (n=522);

- Pg 7, line 152: include some details on how the physical activity questionnaire used in Pakistani children was adapted for Cameroonian children;

- Pg 8: Details of other questionnaires and reviews should be included in the Discussion rather than the Results section;

- Pg 8, line 172: was the use of mobile phones included in sedentary time?

- Physical activity and sedentary time were stratified, please include details of how these categories were decided;

- Pg 10, line 205: please confirm if the children gave verbal assent to participate in the study;

- Pg 10: should include a reference for WHO criteria for overweight/obesity.

Results

- Pg 11: the prevalence of overweight and obesity should be presented separately for boys and girls, and significance level (p value) given;

- P value for difference in prevalence of overweight and obesity between private and public schools - 'pronounced' is not a scientific term;

- P value for level of significant difference between urban and rural participants;

- BMI z scores and triceps skinfold values should be included in the text for boys and girls as these are not included in Table 1;
- A cross-sectional study should not refer to 'determinants' as this suggests causality;

- Should use the term 'prevalence' rather than 'frequency';

- The results only mention significant OR's for >4-7 times a week of physical activity and >3-6 hours/day of sedentary time, what about the other categories that are also shown to be significant?

- Should consider the possibility of logistic regression models separately in boys and girls due to well understood differences in PA and SB between boys and girls, and differences in overweight/obesity prevalence.

- The value of including a multivariate as well as univariate regressions needs to be explained ie. to determine whether the association between physical activity and being overweight/obese is independent of the other factors in the multivariate regression.

Discussion

- The association between occupation level, physical activity and sedentary time would be more relevant if physical activity could be understood in various domains ie. leisure time vs. occupation.

- Grammar: 'association with' rather than 'association to'.

- Should provide more details on the studies that show different associations to this study ie. the Nigerian study that did not report any association between PA and BMI.
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?
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?
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