Reviewer’s report

Title: In-School adolescents' weight status and blood pressure profile in South-western Nigeria: urban-rural comparison

Version: 1 Date: 30 Aug 2017

Reviewer: Man Ki Kwok

Reviewer’s report:

I sincerely appreciate the authors’ efforts in improving the manuscript. However, there are several issues that should be addressed so as to strengthen it.

Major comments:

P. 7 Introduction The authors had added several characteristics that could be related to differences in BP and BMI between urban and rural school-aged children. Nonetheless, the positive relationship between BMI and BP has been consistently and extensively demonstrated in both developed and developing countries. Supposedly BMI is a biological factor affecting BP, how would we expect the etiology in Nigeria (and between urban and rural area) to be differed from other populations?

P.10 Methods SES was mentioned to be based on a wealth index approach, but more details should be given because it could one of the possible reasons for the urban-rural difference. Was the SES reported by parent or child? What was the exact SES indicator (household income, wealth or number of key possessions)? Also, SES is a broad term that also includes education and occupation and other socio-economic aspects. Please use the exact SES indicator, rather than "SES".

P.11 Results What were the associations of father's and mother's education with BP? Also, what were the associations of father's and mother's education, as well as the exact SES indicator with BMI?

P.13 Results Table 6 has to be revised. Given there are only 3 categories for weight status (normal, overweight, obese), why there was p-value reported for all three groups? I suppose "Obese" was used as the reference, but given the very small number of obese children especially in rural area, I suggest the authors use "Normal weight" as the reference instead.

P.13 Results Also, for the sentence "Similar but a more pronounced finding was seen in rural area (AOR = 0.009), with respondents having normal weight about 111 times (1/0.009) less likely to have high BP compared with those who were obese", considering the wide 95% confidence interval, I would suggest the authors focus on interpreting the direction of the association, rather than the magnitude.
P.13 Discussion What do the authors mean by "perceived" difference in lifestyle between urban and rural students? Are there previous studies that demonstrate the "actual" difference in lifestyle or other factors that would be related to BMI?

P.15 Discussion The authors had listed several factors that may contribute to the positive correlation between BMP and BP including excessive sodium intake and insulin resistance. Could the authors explain more how would we expect sodium and insulin resistance to the mediating pathways linking BMI to BP?

P.16 Limitation The validity of the prevalence of higher BP and BMI requires a population-representative sample, please add a discussion about the population representativeness and generalizability.

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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I am able to assess the statistics

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