Reviewer's report

Title: The association of physical activity, body mass index and the blood pressure levels among urban poor youth in Accra, Ghana.

Version: 1 Date: 8 September 2014

Reviewer: Amy Luke

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Minor Essential Revisions
1. Please explain and justify decision to stratify linear regressions by sex rather than simply including as a covariate in analyses?
2. The figures, 2a and 2b, should not include overweight and obese males – there are only 6 and 2 individuals, respectively, and these are misleading if one has not read the text carefully.
3. Please explain the meaning of the fact that BMI was significantly positively associated with BP in males, although extremely few had elevated BMI, and not associated in females despite their having much greater percentages of overweight and obese.
4. Were mean BPs different if the first of three readings was discarded and only the 2nd and 3rd averaged? Many studies do not include the first reading if more than 2 are collected. Please give a short sentence indicating there was no difference in mean BPs with or without first reading included, if true.
5. The relevance of the paragraph in the discussion dealing with built environment interventions is unclear in the Ghanaian context. This needs to either be justified in relation to the appropriate context or deleted and more relevant ideas for interventions discussed.
6. The key findings state that the findings suggest a higher prevalence of pre-hypertension among the urban poor – higher than what? The study was only conducted among poor communities without a different economic group as control. This needs to be restated.
7. Line 64 – "the statement, "Individual lifestyle behaviors associated with urbanization account for the increasing…" is perhaps too definite a statement, "contribute significantly" or similar would be better. After all, the stressors associated with urban living independent of one’s own behaviors have also been linked to elevated BP.
8. Line 74 – please give a brief description of why urban poor areas are predicted to experience higher burdens of NCDs.
9. Was the 7 day recall of physical activity a validated instrument or study-derived?
10. There needs to be some discussion of the fact that the physical activity data were collected via self-report. Some limitations of this methods need to be
reported, as well.

11. Explanation of why 2/3 of the participants came from one of the three communities is needed.

Discretionary Revisions
1. Line 202 – prominent should be replace with significant.
2. Lines 215 & 218 – the use of references (38, 39) with these statements not appropriate as the authors are referring to their own data.
3. Suggest only using 1 digit to the right of decimal in description of BP – eg, line 193 (5.1 mmHg vs 5.120 mmHg). The instrument used to measure BP does not itself have the level of precision suggested by 3 digits to right of decimal.
5. Line 76 – has the overall prevalence of overweight increased among adults?
6. Suggest restating the three urban poor areas as, James Town and Ussher Town in Ga Mashie and Agbogbloshie.
7. Line 102 – add ‘of the’, ie, “…2nd wave of the cross-sectional…”

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.