Reviewer's report

Title: Prevalence of Hypertension and Associated Cardiovascular Risk Factors in an Urban Slum in Nairobi, Kenya. A population-based survey

Version: 1 Date: 25 April 2014

Reviewer: Anthony O Etyang

Reviewer's report:

1. Abstract
   a. Abstract has acronyms that are not written out in full at first instance. E.g NCD, WHO STEPs RCBS, FBS
   b. Results: ‘From a 98% survey response’ please write this sentence in a more understandable way. 98% of subjects approached? Give confidence intervals for statistics mentioned e.g mean age, proportion with primary education. Proportions with stage I and stage II hypertension do not add up to the overall age standardized prevalence reported. Please explain discrepancy. Qualify statement “High levels of physical activity and harmful alcohol intake were demonstrated” by giving statistics
   c. Conclusions- if there were high levels of physical activity how is there a need for lifestyle interventions? This sentence is self contradictory and is not supported by the data in the study.

2. Introduction
   a. Paragraph 2. Stick to one tense. Both present and past tense are used inappropriately in sentence 2.
   b.

3. Methods
   a. Line 1. If Kibera is 2.5km2 and the total population is 300,000, the population density would be 120,000 per square km which is way higher than the stated 49,228 persons per km2. Please enter the correct figure
   b. Line 7. How was the population for each of the clusters projected as part of obtaining the sample frame? Was there a baseline census that had been performed earlier?
   c. Page 6, line 1. A better description of the bathroom scales that were used for taking weight is required. What was the brand name and how was quality assured?
   d. Page 6, paragraph 2, line 3: Reference for AHA guidelines for measuring BP missing
   e. Page 7, paragraph 2. Not sure that the full name for SPSS is statistical products and service solutions? If indeed it is, then the vendor and city of manufacture should be mentioned to avoid confusing with the more commonly
known software that has the same acronym.

f. Page 7, para 2, line 7. Please specify the method of adjustment used for the odds ratios. Was this MH, or multi-variable logistic regression? Adjusted ORs-MH? Not stated

g. No description of the method used for age standardization of the prevalence of hypertension is given in the methods section.

4. Results

a. Physical activity. Last line—it is highly unusual for physical activity to increase with age, but the authors report that this was the case and give a p-value for trend. Given that they further report that after age 35-44 this trend was not observed, it is misleading to report this trend. They should consider reporting that there was statistical interaction observed with regard to age. If indeed there was a linear trend then they should report by how much PA increased by age category.

b. Page 11. Line 2. Did the authors mean to say “The combined prevalence of ISH and IDH was 6.0%.....? As presently structured the meaning of the sentence is not clear.

c. Page 11, paragraph 2: “Compared to normotensive, a larger proportion of hypertensive subjects were current smokers (17.8%; 12.5%;p 0.018), had commenced smoking at older age (21.4 yrs; 15.4 yrs; p 0.037) and had a longer duration of smoking (8.3yrs, 6.0yrs, p 0.001)”. An explanation is needed as to why despite commencing smoking at a later age, hypertensives had a longer duration of smoking than non-hypertensives

d. Multivariable analysis, page 12. Paragraph 3. Please give confidence intervals for the increases in BP with age, WC etc.

e. Tables: although the journal has no limit on number of tables and figures, I suggest that the authors consider reducing the number of tables in the manuscript, and if necessary moving some into the supplementary appendix. For example, all of the data in table 4 is also present in table 6. Incidentally, the data presented in table 4 is different from that of same age groups in table 6.

5. Discussion

a. Paragraph 3; Although there is evidence from other longitudinal studies that age and obesity are causally related to hypertension, the design of this cross sectional study does not allow the authors to make this claim. The studies that they cite (Van de Vijver et al and Hendricks et al) to strengthen this claim were also cross sectional and suffered the same limitation of not being able to establish causation.

b. An interesting finding of the study was that there were high levels of physical activity among the participants despite the high prevalence of hypertension. The authors should consider discussing this finding including its relation to other studies.
Level of interest: An article of importance in its field

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