Reviewer's report

Title: Patterns, levels and correlates of physical activity in urban black Soweto women

Version: 1 Date: 23 December 2013

Reviewer: Romulo Fernandes

Reviewer's report:

Thank you for the opportunity of to review the manuscript "Patterns, levels and correlates of physical activity in urban black Soweto women". The manuscript has relevant data, but I believe that some adjusts are necessary in the current version.

Major Compulsory Revisions

Methods
I would like to see data about reproducibility of the GPAQ and anthropometric measures.

Statistical analysis is superficial. It is necessary to use a multivariable model (Poisson regression [with adjusted robust variance]) to answer adequately the Aims.

Aim iii: to determine if physical activity is associated with anthropometry and cardio-metabolic risk factors.

Initially, is necessary to analyse the association between the outcome (General obesity, abdominal obesity, arterial hypertension, dyslipidemia, insulin resistance or diabetes mellitus and MetS) and independent variables (GPAQ and TV viewing >3h/day) (chi-square test). In cases with significant chi-square (p-value <0.05), the Poisson regression should be applied. Potential confounders should be inserted simultaneously in the multivariable model.

Elaboration of the Multivariable model:
Outcome (with p-value <0.05):
Independent variable: physical activity variables
Potential confounders: age, SES and motor vehicle

Additionally would be relevant to analyze the association between a cluster variable of PA / TV (1: none of both; 2: GPAQ inactive and TV< 3h/day; 3: GPAQ active and TV >3h/day; 4: both variables) and the cardio-metabolic outcomes in the Poisson regression. However, I am not sure of this sample size has statistical power to this additional analysis.

Results
I am not sure if the sample size is 977, because there is less people with
biochemical variables (Table 1).
In Table 1 there is data about bone mineral content, but the use of DXA was not mentioned in the Methods Section. Is there data about DXA? The Results should be rewritten:
Table 1: adequate (exclude variables about DXA).
Table 2: exclude the column "whole cohort" and insert the two categories about TV time (> 3h/day and <3h/day).
Table 3: should be presented as Table 2
Table 4: should be excluded
Table 5: should be excluded
Tables presenting the Poisson regression should be elaborated.

Discussion
The study has a cross-sectional design. The authors should have caution in some statements about causality.
Conclusion should be shortened.

Minor Essential Revisions
Methods
BMI and WHR do not assess body composition. Thus, "body composition" should be changed to "anthropometric measures".

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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