Reviewer’s report

Title: Correlates of Objectively Measured Overweight/Obesity and Physical Activity in Kenyan School Children: Results from ISCOLE-Kenya

Version: 1 Date: 3 October 2013

Reviewer: Maria Inês Varela-Silva

Reviewer’s report:

Major Compulsory Revisions

This is a very well organized paper that provides very useful information about the nutritional status and levels of physical activity of Kenyan children. The socioeconomic context in which the analysis is done adds a great deal of information about the complexes causes and effects of the nutritional and behavioural transitions.

My main concern is the use of “underweight” (classified by a ZBMI <-2SD) which is an indicator of acute undernutrition and more easily reversed when conditions change. Authors should have used instead the indicator of “stunting” (classified as a Zheight-for-age <-2SD) which shows chronic malnutrition and has much greater health implications for the future of the children. When conducting studies on the overweight/obesity prevalence in low and middle income countries it is very important that the prevalence of stunting is known. BMI works extremely poorly when there is a high percentage of stunting and in some populations shouldn’t be used at all. Also, if there is a high prevalence of stunting all the physical activity data will need a different assessment because a stunted child cannot cope with physical activity guidelines that were set for well-nourished children. Stunted children also have considerable less percentage of muscle mass and overall much less energy. I advise the authors to read the following papers (Wilson et al., 2011; Bogin and Varela-Silva, 2012; Varela-Silva et al., 2012)


I strongly advise the authors to remove the prevalence of underweight and replace it by the prevalence of stunting.
Minor Essential Revisions

1. Abstract. Page 2, line 1. Please replace the word "plague" with some other word such as "burden"

2. Background. - The opening sentence doesn't read well. Instead of “Physical activity and nutritional transitions around the world have resulted in a shift towards more sedentary lifestyles…” Please consider using for example: “Nutritional and behavioural transitions around the world…”

3. Background. Consider changing the expression “normal” weight to healthy weight

4. Background/Results. The first paragraph under the heading “Results” should still be included in the Methods.

5. BMI of the parents are based on self-reported height and weight. It is necessary to state in the paper the limitations of relying on self-reporting for height and weight because people tend to overestimate height and underestimate weight.

**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'