Reviewer's report

Title: Is waist-to-height ratio a useful indicator of cardiometabolic risk in 6-10-year-old children?

Version: 1 Date: 15 January 2013

Reviewer: Christina Shay

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Valesca Mansur Kuba and colleagues are reporting findings from a cross-sectional investigation exploring the association between waist-height ratio and several cardiometabolic risk factors in 6-10 yr old children. The utility of waist-height ratio as a clinical indicator of disease risk is explored.

Comments:

Major:

1) A major concern that arises with the use of the current sample to explore associations between anthropometric assessments and cardiometabolic risk is the fact that this sample is not representative of a general population. The criteria/rationale for referring children to this clinic may be a major limitation that should be thoroughly described in the discussion section.

2) Additional basic demographic and examined clinical characteristics for the children should be presented in an additional table (a new Table 1).

3) Much of the discussion regarding potential explanations for the current findings compared to previous investigations are based on the characteristics of the sample (e.g. race, lean vs obese), however, no descriptive/clinical characteristics are displayed according to these groups. Characteristics that may potentially explain the observed differences should be displayed in the manuscript or in supplemental tables as appropriate. Additionally, interactions in the associations between waist-hip ratio and risk factors should be explored according to groups of interest (race, sex, lean vs overweight or obese) in order to substantiate some of the claims made in the discussion. As the presented analyses currently stand, there is little evidence to substantiate the potential explanatory factors but additional analyses could be presented.

4) Since this study is one of the first investigations to examine waist-height ratio and the association with cardiometabolic risk factors, it is extreme to recommend changes in screening practices based solely on these findings. The language needs to be changed to recommend further exploration of the use of waist-height ratio as an indicator of metabolic risk in children 6-10 yrs and in other ages. The current findings should be emphasized as evidence for further exploration of the observed associations in other populations and in population-based samples as appropriate.
Minor:

1) The introductory paragraph could be edited to improve readability. The opening sentence is important but either should be moved to later in the introduction or expanded upon to further emphasize the point made in the sentence. The sentence could also be removed entirely as it may not be necessary.

2) The use of commas throughout the text is incorrect and distracts from the points being made. Please edit as appropriate.

3) In the objective sentence, the use of the word “performance” is misleading. I would recommend using other verbiage that emphasizes that the associations examined are cross-sectional. Since this study is cross-sectional, all language through the document referring to the findings in the current study should reflect this study design. For example, please change any language that refers to prediction of risk and change to associations or relationships.

4) Throughout the document, paragraph indentation inconsistencies were observed and other grammatical and editorial issues exist. Please review the document thoroughly to correct these issues. There are also several typographical errors that need to be corrected.

5) Please spell out all abbreviations in footnotes of tables.

6) “Not Significant” should be avoided in tables. Please display all exact p-values.

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: Yes, but I do not feel adequately qualified to assess the statistics.