Author's response to reviews

Title: Waist circumference cut-off values for the prediction of cardiovascular risk factor clustering in Chinese school-aged children: a cross-sectional study

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Author's response to reviews: see over
Dear Editor,

Many thanks for the opportunity to revise the manuscript. We are extremely grateful to the reviewers for their positive and constructive feedback. The incorporation of many of the suggestions has strengthened the manuscript.

Detailed below are the changes we have made.

We look forward to an early and positive reply regarding suitability for publication.

Best regards

Ailing

Responses to the comments by Selim Kurtoglu

1. Definition of CV risk factors is defined in the methods section but I could not find any reference which shows that these 3/5 factors indicates high risk. This definition may be given as the consideration of the researcher and the whole report can then be rewritten in this manner.

Response: We thank the reviewer for this comment. The cardiovascular risk factor clustering (three or more of 5 risk factors) was defined according to the study by Ng et al. (Obesity 2007;15(2):494-503) and this reference has been added to the paper.

2. Age- and gender-specific cut-offs are converted to percentiles but the method of conversion needs an explanation. This clarification must be given in the methods section and discussed later.

Response: The reviewer is referred to the methods section of the paper where the method of conversion is described as follows: ‘the age- and sex-specific waist circumference cut-off values were read directly from the corresponding smoothed percentiles constructed from the whole population group by the LMS
Responses to the comments by Alessandra C Goulart

1. The manuscript written by Liu et al., “Waist circumference cut-off values for the prediction of cardiovascular risk in Chinese school-aged children: a cross-sectional study” is very interesting. However, this issue is not original, and it was previously evaluated in other Chinese-based population samples of children (Sung et al 2007; Yan et al 2008 and Ng VW 2007).

Response: The reviewer has made an important observation and indeed, we are familiar with these previous studies among Chinese children. However, the major difference between the current and previous studies is that the samples in the three earlier studies were less representative of the population of Chinese children. More specifically, one of the studies was conducted in a Western province of China and the other two studies were undertaken among children living in Hong Kong. As we have highlighted in the background literature, there are important regional differences in body size and composition of Chinese. The population recruited in the present study involved children from both the North and South of the country and is therefore more representative than the previous studies.

2. According to the author “the purpose of the present study was to develop WC percentiles for Chinese children from both the North and South of the country, and secondly, to explore the optimal WC cut-off values for predicting CV risk in this population”.

The second objective is not totally clear, since that the association evaluated was a combination of cardiovascular risk factors (LDL-cholesterol, HDL-cholesterol, fasting glucose, triglycerides and blood pressure) defined by the author (# 3: high cardiovascular risk factor) and WC for boys and girls, respectively. The author should
clarify this issue in the title and in the whole manuscript rewriting “cardiovascular risk factors” instead of “cardiovascular risk”.

Response: We thank the reviewer for this observation. Accordingly, we have changed the title of the paper to ‘Waist circumference cut-off values for the prediction of cardiovascular risk factor clustering in Chinese school-aged children: a cross-sectional study’. Similarly, the second objective of the study was re-worded as follows: to “explore the optimal waist circumference cut-off values for predicting cardiovascular risk factor clustering in this population”. The term “cardiovascular risk” has been changed to “cardiovascular risk factor clustering” throughout the manuscript.

3. Methods: It is not totally clear if the OR was adjusted by age.

Response: Yes, the OR was adjusted by age and referenced in the statistical analysis section using the following sentence: “In addition, odds ratio was calculated using logistic regression analysis adjusted for age to explore the risk of having cardiovascular risk factor clustering among boys and girls who were at the optimal threshold of waist circumference and higher compared with their counterparts”.

4. Results: the author mentioned about “the optional threshold of WC for boys and girls was the 90th and 84th percentiles, respectively. Further, the Odds Ratio (OR) of a higher CV risk among boys at the 90th percentile of WC and higher, and 84th and higher percentiles of WC in girls is 10.349 (95% confidence interval (CI) 4.466 to 23.979) and 8.084 (95% CI 3.147 to 20.767) compared with their counterparts”. However, she never mentioned about these WC values for both boys and girls. Indeed, it’s not clear if the author misled the word “optional”. The correct word should not be “optimal”? (see in the introduction section)
Response: We apologize for the confusion associated with this mistake. The correct word is ‘optimal’ and not ‘optional.’ The manuscript has been amended accordingly.

- Minor Essential Revisions

The titles are missing in the figures (1-3).

Response: Thanks for this comment however it was a requirement of the journal that figures be submitted separately from the manuscript and without titles incorporated. We have listed the title of each Figure as Figure legends.

- Discretionary Revisions

The figures one and two should be added as a supplemental material. Further, the figure three should be removed since its part of discussion and not the results.

Response: Yes, Figures 1 and 2 are in the results section, while Figure 3 is in the discussion.

The author should consider analyzing the relationship of each cardiovascular risk factor in separate with WC; and then putting everything together analyzing the association between metabolic syndrome and WC in boys and girls, respectively.

Response: We thank the reviewer for this good suggestion however this was not the major focus of this paper. We are preparing an additional manuscript to explore these relationships.