Reviewer's report

Title: Waist Circumference and Risk of Elevated Blood Pressure in Children: A Cross-Sectional Study

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Reviewer: Tsai-Chung Li

Reviewer's report:

The authors explored the relationship of waist circumference (WC) and prevalence of elevated blood pressure in school children in a cross-section study. A total of 2,334 school children at grade 1 in 6 elementary schools of Taipei County were recruited. The age, gender, and height-specific 95th percentile blood pressure value was used as cutoff points to define elevated blood pressure. School children were classified into 4 WC groups according to quartiles. In this cross-sectional study, they found WC was a significant predictor of elevated blood pressure. And there existed a linear trend when WC was treated as a continuous variable.

Major Compulsory Revisions:

1. The cutoff points of blood pressure consider age, gender and height. But the cutoff points of WC did not consider these factors at all. I think at least gender should be considered because boys had larger mean WC values than girls either with normal or elevated blood pressure. Authors should examine whether the relationship between WC and elevated BP was similar in boys and in girls. If they were different, all data analysis should be stratified by gender. If they were similar, gender-specific cutoff points for WC should be considered.

2. In table 3, the odds ratios (ORs) for WC per unit increase and for waist-to-height ratio (WHtR) per 0.01 unit increase were shown. How about per 1 standard deviation (SD) increase? The ORs for WC and WHtR per 1 SD increase can be used to evaluate WC or WHtR had greater magnitude of strength of relation with evaluated BP. From table 3, we can see WHtR was also a significant factor for evaluated SBP, DBP and BP. In method section, no definition for WHtR has been mentioned. In addition, the significant effect of WHtR had never been discussed although authors cited some papers of WHtR in introduction section.

Minor Essential Revisions:

‘Mean’ is a more common and appropriate keyword that should be used than ‘Average’.

Level of interest: An article of importance in its field

Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.