Reviewer’s report

Title: Urban-rural-specific trend in prevalence of general and central obesity, and association with hypertension in Chinese adults, aged 18-65 years

Version: 4 Date: 16 Apr 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

Yes - experiments and analyses were performed appropriately

STATISTICS - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author’s interpretation is reasonable
OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?

Probably - with minor revisions

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: Overall, this study used CHNS and described the trend of obesity in China stratified by region. A positive association has been observed between obesity and the prevalence of hypertension. The manuscript is well-written and all the comments below are fairly minor. Here are some suggestions for improvement:

Introduction:

1. Please add more background information about descriptive epidemiology of hypertension to highlight the significance of the study.

2. "in 2002, there were 153 million adults" This statement sounds like the total adult population of China in 2002=153 million. Please rephrase.

Methods:

1. The rationale for unweighted analysis is not clearly specified. Is the weight variable available in the CHNS dataset?

2. Did participants also self-reported SBP and DBP?

3. It is unclear why the authors only used the t-test to compare body weight factors? What about other variables?

4. "...adjusting smoking, drinking, gender, survey year, and age, which have been recognized as factors of hypertension" Do the authors mean 'risk factors'?

5. The authors may consider performing subgroup analysis by urban vs. rural region? Perhaps there is an interaction between obesity and the region in relation to hypertension.

Results:

1. It is unclear if the results of the t-test analysis were reported.
Discussion:

1. "Another aim of our study was to estimate the risk of hypertension with the three types of obesity and to compare the differences between adults in urban and rural areas" This should be described in the methods.

2. The discussion section would benefit from at least a brief discussion of the biological mechanism underlying the association between obesity and hypertension?

3. A notable limitation is the self-report measure of hypertension.

Note: This reviewer report can be downloaded - see attached pdf file.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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