Reviewer’s report

Title: Association of adiposity with thyroid nodules: a cross-sectional study of a healthy population in Beijing, China

Version: 1 Date: 04 Sep 2019

Reviewer: Research Square

Reviewer's report:

STATISTICAL REVIEWER ASSESSMENT:

Is the study design appropriate for the research question (considering whether the analyzed population accurately reflects the design and whether you see any problems with control/comparison groups, e.g., likely confounders)?
No - there are minor issues

Are methodologies adequate and well implemented (considering whether assumptions are addressed and whether analyses are robust)?
No - there are minor issues

Are the analyses adequately communicated (considering whether reporting details are adequate and whether figures and tables are well labeled and described)?
Yes - important reporting details are present, analyses are adequately communicated, figures and tables are well labeled and described

Does the interpretation accurately reflect the analyses without overstatement (considering whether limitations/bias are acknowledged and whether accurate descriptors, e.g., 'significant', are used)?
No - there are minor issues

Could an appropriately REVISED version of this work represent a statistically sound contribution?
Probably - with minor revisions

STATISTICAL REVIEWER COMMENTS:

Overall, it is an interesting study that would attract audience in endocrinology field. In terms of design and analysis, authors have done a descent job although there are areas that are unclear and any judgment of the decency depends on the answers to those questions.

REQUESTED REVISIONS:

Study design:
The reasoning of studying the relationship between obesity and TNs is not well explained (it is better explained in the discussion but needed to also briefly mentioned in background to help readers understand the study better.

Not clear where and how subjects were entered the study. It is important from where they selected patients and how, was it randomly? If yes, what kind of randomization. It is very important to make these clear, because they could be serious sources of bias.
In background, it says patient population is >40 yrs but in methods, it is 25 yrs.

How VFA was calculated?

Authors used normal distribution test but never mentioned which datapoints were normally or non-normally distributed. for instance, if age was normally distributed, it should've reported as mean +/- SD not median; etc.

Did authors control/consider natural differences in female/male body fat content?

Also, it is important to mention that some of these differences and odds ratios may not be clinically significant although they are statistically significant.

ADDITIONAL REQUESTS/SUGGESTIONS:

It would be interesting to know if clinical assessment for TNs was affected by change in body weight (possibly due to increased neck soft tissue making clinical diagnosis more difficult). Not sure if authors have enough data to present this, or this might be an idea for another study in future!

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

No

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

No

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

No

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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