Reviewer's report

Title: Sedentary lifestyle and Framingham risk scores: A population-based study in Riyadh city, Saudi Arabia

Version: 0 Date: 27 Sep 2018

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER COMMENTS: To view the full report from the academic peer reviewer, please see the attached file.

REVIEWER COMMENTS FROM REPORT: The study has some potential but the writeup is a little confusing. The introduction is generally good but does not argue sufficiently for what the authors are proposing. The methods need some re writing and reordering. They are incomplete. The discussion is quite good too, except sometimes it is a little speculative. The authors need to stick to the main message of the paper.

REQUESTED REVISIONS:

This paper needs a little work.

I understand the rationale for measuring Framingham risk score (FRS) in the Middle East but do not appreciate the second part of the hypothesis. It is not clearly argued. Why would you want to examine sitting time with FRS? It is likely to be associated. What is the rationale of examining marriage status and FRS? What is the rationale of examining style of housing and FRS? What is this paper actually really trying to achieve? It needs a stronger focus or perhaps just some rewriting. In this current state, it is difficult to see what is really going on.

The FRS risk score used was derived on middle class white Americans from many decades ago. Has it been validated on a Saudi population? This is a key point which needs addressing with care. Perhaps there is a risk score of greater relevance to this population.

Specific comments:

Abstract: the methods of the abstract should describe the FRS score. Ie: what variables were included and how they were coded. The authors also need to define what high obesity means somewhere in the abstract. That is a FRS > 10. FRS gives a 10 year probability of developing CVD. What are the units? This needs to be more explicit
The sentence about interaction does not make sense to me. Did you perform a statistical interaction? Please consider rewording. What is the rationale for doing this interaction?

Main methods:

The paragraph describing recruitment of men and women is not clear. Also, you have recruited men and women from different sources which would lead to a selection bias. This should be discussed as a limitation.

The authors need to explain that they calculated the FRS on the participants first and then categorised them into a binary outcome. The methods need to be clearer.

The authors need to report the results of the interactions that were performed. The authors have stratified the results for sex but I don't see the evidence for doing so. Given how the odds ratios overlap, I do not think that the interaction will be positive and if it isn't, the results should be presented in the total population only.

Results:

Table 3 needs a better heading. It does not describe what is in the table.

Discussion:

There is a lot of restating of results in discussion. This should be avoided. I would disagree with low education being causal for high CVD risk as measured by Framingham Risk Score. It is likely to be mediated through CVD risk factors. Mediation analysis may be warranted. There is no evidence for this statement and it should probably be deleted.

ADDITIONAL REQUESTS/SUGGESTIONS:

see above. The main problem is the lack of clarity in what is being done and why. Also the methods are poorly described.
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.

Not relevant to this manuscript

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Please indicate the quality of language in the manuscript:

Acceptable

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