Reviewer's report

Title: Sitting time and health outcomes among Mexican origin adults: obesity as a mediator

Version: 1 Date: 24 May 2012

Reviewer: Chris Ardern

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The purpose of this study was to explore the mediating effect of obesity on the relationship between sedentary time and cardiometabolic health within a representative US sample of Mexican Americans. While the results of these analyses have important (public health) implications, some methodological constraints remain. Following are areas for elaboration and clarification of methods that the authors may wish to consider.

Major Compulsory Revisions:

Study Rationale
1. In the background rationale and discussion, it is noted that most studies, if adjusting for body habitus, have used a measure of waist circumference instead of BMI. The argument for this as a limitation is not straightforward, as the relationship between abdominal obesity and health risk is generally stronger than that of overall body fatness. The authors then go on to reference articles that have adjusted for obesity status or BMI.

Variable Description
2. Physical Activity: Additional information on validity of the California Teachers Study physical activity assessment is necessary to understand the potential overlap between lifestyle activity and sedentary time. In particular, greater detail on the utility of the intensity cut-offs in question, given that perception of physical activity intensity (and awareness of physical activity guidelines) may vary across demographic groups and various health history categories.

3. Sedentary Time: Given that there is not currently a uniform definition of sedentary time, limitations of this variable should be discussed. As presented, it is unclear if the categories of sitting time are done for biological reasons, or for comparison with previous literature and/or physical activity and sedentary time recommendations. Please elaborate.

Statistical Analysis:
4. Derivation of the final working sample is unclear. Specifically, what study exclusions were made for age and BMI? Adults over 65 y should be excluded, or analyses stratified to explore the differential effect of BMI (due to potential changes in proportion of lean:muscle mass) on health risk. While it is clear that the analytical sample varies when hypertension or diabetes are used as
outcomes, additional detail is warranted to clarify the representativeness /
geneneralizability of the analytical samples (and loss of participants from the
original 20 000 who were sampled) through missing value analysis.

5. Given that ~80% of the sample was female, were any sex-based interactions
assessed to explore potential variation in final models of the effect of BMI /
obesity on the sedentary-health relationship? Similarly, what effect did
acculturation and employment status have on the observed relationships? These
should be acknowledged as a broader context to the present analysis, and
caveat to comparisons with other demographic groups in the U.S.

Minor Essential Revisions:

6. Please add the survey response rate.

Discretionary Revisions:

7. (p3, para1): Add a Census reference for statement on ‘fastest growing’
component of population.

8. Sex differences (rather than gender differences) were investigated

9. Use of cross-sectional language is necessary to describe the logistic
regression results / associations presented

Level of interest: An article whose findings are important to those with closely
related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a
statistician.

Declaration of competing interests:

I declare that I have no competing interests.