Reviewer’s report

Title: A secondary analysis examining the concordance of self-perception of weight and actual measurement of body fat percentage: The CRONICAS Cohort Study

Version: 0 Date: 16 Jul 2018

Reviewer: Diane Berry

Reviewer's report:

Dear Authors,

Thank you for the opportunity to review your manuscript titled "Assessing percent body fat as measured by bioelectric impedance according to weight self-perception: The CRONICAS Cohort Study." The title should be corrected to reflect that this was an secondary data analysis to examine concordance of self perception of weight and actual measurement of body fat percentage.

Overall the manuscript would benefit from the utilization of a good English copy editor to correct language, tense, and punctuation.

The background section needs to be strengthened and more succinctly presented. More information on self-perceived weight status should be blended in and referenced. Please add additional information on BIA. BIA has some strengths, however, is considered quite controversial secondary to issues regarding age, hydration, and time of day that measurements are taken. These issues may affect results. However, they were never mentioned. Is SPW an approved abbreviation? I have not seen it before. So unless it is approved, please spell the words out throughout the paper.

The methods section needs to be strengthened. The data source is the only place that you let the reader know this is a secondary data analysis of a larger study. That needs to be clear in the title and more information needs to be given about the primary study under data source.

Under variables you need to clearly give more scientific information on BIA. What are the pros and cons of using this method. Under the self-perceived weight questionnaire there is inadequate information regarding the instrument, reliability, validity, and cut off points. What are the psychometrics with references. Also, has it been tested in this population and what are the alpha coefficients in this study? Are there subscales? How is it scored? Are their subscales and a total score? What do the scores mean? Under weight status definitions I think you can make a table for the cutoff points and age. The underestimation of weight status paragraph needs more information and needs to be clarified please. Under socioeconomic status and education you need to define all of your variables. For example, how did you measure asset possession and household facilities? What is the ranges for low, medium, and high? In what currency? How did you define education? What levels?

Under data analysis you need more information on your procedures for the analysis. You also need
more information on how you quantified variation in BIA over time by self-perception and by underestimation.

Under results you have mixed in some discussion and that needs to be pulled out. In this section just clearly and succinctly report your results please.

Under discussion in the first section you just reiterated the results. You need to discuss each major finding and blend in literature that agrees and disagrees with your findings and what you think that means and how it adds to the literature.

The public health and clinical implications section can be more succinctly presented and some discussion how this knowledge will give clinicians new information to discuss weight and personal self-perception with their patients.

The limitations section needs to include a discussion about the limitations of using BIA.

The conclusion needs to be reworked to succinctly state what was found and next steps.

**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.

Unable to assess

**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 recommend additional statistical review

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

Needs some language corrections before being published
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