Reviewer's report

Title: A cross-sectional and 6-year follow-up study of associations between leisure time physical activity and vertebral fracture in adults

Version: 1 Date: 25 Jun 2019

Reviewer: Gustavo Almeida

Reviewer's report:

Thanks for addressing most of my comments and for having someone reviewing the manuscript as a whole to re-organize it. I really appreciate your efforts.

Now that the manuscript reads better, this reviewer was able to identify some other points in the discussion that need revision:

- Pg 19, lines 340-341: It is important to expand the discussion here by adding why the authors believe that women in the "moderately/ high intensity" group were less likely to have a vertebral fracture as compared with women in the "low intensity group". Consider adding.
- Pg 19, lines 342-343: Your sample was >50yo, so I don't believe that it is an issue.
- Pg 19, lines 345-346: Please revise this sentence: sedentary time increased while leisure time increased? It is not clear the point you are trying to make.
- Pg 22, lines 413-414: There is a huge disconnect between these two sentences. How about continue discussing about the change in PA and vertebral fractures? How many of your subjects change their PA due to fracture? Were they more or less active after the fracture?... Expand on that.

Moreover, adding validity and bias from self-reported questionnaires completely detracts the reader from what is important, i.e., the effect of fractures on PA. In my opinion, discussing validity of questionnaires to measure PA is not necessary. The rest of this paragraph can be removed and, at the beginning of the next one, simply mention that it is known that measuring PA using questionnaires is not ideal due to potential under- or over-estimation of activity participation but that's how data on PA was collected in the sample we have analyzed from the Tromsø study.
- Pg 23, lines 425-426: How come "no objective PA data was accessible"? How about the subjects included in Emaus et al. [36], weren't they part of your sample?
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.

Unable to assess

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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