Reviewer’s report

Title: Association between health behaviors and mood disorders among the elderly: a community-based cohort study

Version: 0 Date: 17 Dec 2018

Reviewer: Kazuki Uemura

Reviewer's report:

This observational study focused on behavioral factors associated with mood disorders among older adults who underwent publicly funded health examination. The topic is of interest and importance. However, there are several concerns decreasing significance of the study. Study design and description of methodology appear not to be enough to serve author's purpose.

1. At first, although it is described as a longitudinal study, it is unclear how authors follow up participants longitudinally. When and how many points did they undergo the examination? It seems that the association between behavioral factors and mood disorder is analyzed cross-sectionally (if so, it is not longitudinal study design). Please show the figure indicating time course of investigation and follow-up.

2. Methods of investigation are unclear. Did you collect the data through interview or postal survey? Measurement of potential risk factors of mood disorders is not described in "Method" at all. Authors should explain what kind of questionnaire (or question items) were use and how did they define whether participants had each potential risk (protective) factors.

3. Additionally, in introduction, review of research background is not enough. There are many studies investigating the association between mental health problem and behavior, such as physical activity and social participation, as follows.


Authors should introduce the existing literatures about the theme and clear up the questionable points. And then, new challenge of the present study (novelty) should be mentioned obviously. As mentioned above, since the association between health behaviors and mood disorders has been studied, only large sample size appears to be week as the point of novelty. The hypothesis of this study based on existing literature is also needed.

4. Finally, as authors indicate the gender difference of the prevalence of mood disorder, I recommend that authors examine if there are any gender differences of health behavior associated with mood disorder.

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:

Acceptable

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