Reviewer’s report

Title: An additive effect of leading roles on the association between social participation and dementia onset among Japanese older adults: The AGES cohort study.

Version: 0 Date: 16 Oct 2017

Reviewer: Tiemei Zhang

Reviewer's report:

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This work analyzes whether the incidence of dementia be affected by social activities in elderly. Although the response rate of follow-up survey is not high (52%) enough, it can still give readers some enlightenment.

The comments are following:

1. The writing and data expression is not in a proper way. A large amount of text (p8. Row 135-144) was used to describe a fact that already expressed clearly in one charts (Fig.1). However, there is no relevant data for the precise incidence of dementia in different groups of elderly. Only crude incidence of dementia in young- and old-old group or the relationship was presented. In order to provide readers with detailed information, the description of the relevant table for incidence of dementia in the follow-up elderly by age, sex and education levels should be added.

2. In the discussion, the author mentioned that one possibility in lack of significant relationship between social participation and dementia in old-old group may due to the effect of illness in older persons. However, the supplementary table shows that most of risk for dementia is lower in old-old group with some diseases than those without diseases (except for depression). This may not support the author’s claim.

3. The idea which quantity and quality of social participation may influence the incidence of dementia, is interesting. Whether the author could extract some evidence for quantitative
and qualitative social participation from this work. Otherwise, how to persuade readers about this idea.

4. Please to introduce the reference and details of dementia scale used in this work.

5. The title of table 1 is not accurate. Where the baseline status is ambiguous. Is it the initial state of this survey or the follow-up one.

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.

Yes

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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