Reviewer's report

Title: Association between subjective memory complaints and health care utilisation: a three-year follow up

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Reviewer: Tatsuro Ishizaki

Reviewer's report:

Thank you so much for providing me the opportunity to review your manuscript entitled “Association between subjective memory complaints and health care utilisation: a three-year follow up.”

I strongly agree that SMC is one of the major issues in geriatric practice and that an increase in healthcare resource use among older patients is challenging in aging societies. The authors are praised for their efforts to conduct an important study in geriatric medicine. However, after careful review, I found several problems in the manuscript.

1. Previous studies identified that healthcare costs are strongly associated with patients’ principal medical diagnosis and its severity, comorbidity, and medical services provided. Therefore, the authors are unable to conclude that SMC is significantly associated with healthcare resource use among older patients without adjusting for important confounding factors in this study.

2. In terms of study design, this study had many outcomes “dependent variables” and did not clarify primary and secondary outcomes in analyses. The more hypotheses are tested on the same data, the more likely to the chance of making a type 1 error. Therefore, the significant association of SMC with overall annual costs may be just by chance.

3. The question used to assess SMC in this study did not distinguish between short-term memory loss and long-term memory loss among older individuals.

4. In terms of an internal validity, the authors should discuss the impact and magnitude of selection bias (“sampling bias”) of the participants on the results.

5. The tables shown in the manuscript should be revised to become self-explanatory ones and to improve readability for readers from every part of the world: 1) Sources shown in Table 2 should be written in English; 2) abbreviations used in tables are spelled out in a footnote; 3) the authors should add the number of analyzable subject for explanatory variables one by one in Table 3; 4) the authors should show regression coefficients and what kinds of statistical tests used in Table 3; 5) Table 4 should contains reference categories and what kinds of statistical models were used.

6. In Table 4, the results in the first- and second-part models are overlapping in
nursing home use and its costs.

7. It is not quite clear that SMC was significantly associated with the combined costs shown in Table 4, whereas it was not significantly associated with GP costs, hospital stay costs, out-of-hours costs, or nursing home costs in the same model. The authors should discuss this discrepancy.

8. The authors should use odds ratio (OR) rather than relative risk (RR) in Abstract and the Methods section. Although the regression coefficients in a Poisson regression analysis are interpreted to be equivalent to the log of the RR, original results of log of regression coefficients shown in a Poisson regression analysis are ORs rather than RRs.

9. Because I guess that SMC may strongly correlate with the MMSE scores, the authors should mention multicollinearity issue between them in each model in the Methods and Discussion section.

10. Some of the references are overlapping. The authors should carefully check them before submission.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.