Reviewer’s report

**Title:** The factorial structure of the mini mental state examination (MMSE) in Japanese dementia patients

**Version:** 1  **Date:** 3 March 2010

**Reviewer:** Huali Wang

**Reviewer’s report:**

**Major Compulsory Revisions**

1) This study aimed to analyze the factorial structure of MMSE in Japanese adults with dementia, and to clarify the MMSE static structure in identifying different cognitive profiles and understanding how these profiles are related to levels of dysfunction in subsets of dementia patients. The questions appeared well defined. However, the fact that people with different subtypes of dementia may exhibit different profiles of cognitive dysfunction has been overlooked in this study. The manuscript discussed the three factors extensively. However, as pointed out, the cognitive profiles were also be influenced by the diagnosis of subtypes of dementia. For example, memory impairment is one of the prominent onset symptoms of Alzheimer’s disease, executive dysfunction may be exhibited in the very stage of frontotemporal dementia, and the early symptoms of vascular dementia may be dependent on the locations of CVD lesions. The study should clarify the distribution of diagnosis, and make subgroup analysis and discussion.

2) This study used the score of MMSE to classify the subjects of 3 disease severities, while distribution of MMSE scores was the primary measures of the whole study. In such case, the disease severity should be rated with another rating instrument, e.g., clinical dementia rating scale (CDR), or global deterioration scale (GDS).

3) The limitations including overlook of subtypes of dementia, and the inappropriate use of rating instrument of disease severity should be included in the revision.

**Minor essential revisions:**

1) The result of factor analysis was inconsistent in the full-text and abstracts. On page 7, it was stated “three factors explained 44.57% of total variance”, but not the “85% of total variance” in the abstract. The authors should make it accurate to report the results of factor analysis.

2) The manuscript needs some improvement in the writing, to present the results accurately. On page 8, it was stated that “The second factor explained the 9% of variance and included temporal orientation, delayed recall and spatial. This factor explained the 44% of variance and included temporal orientation (factor loading; r=0.80), delayed recall (factor loading; r=0.76) and spatial orientation (factor loading; r=0.68).” The percentages reported were different in 2 sentences. The
same problem was also noted for the third factors. These mistakes should be corrected.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**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.