Reviewer's report

**Title:** The utility of Hopkins Verbal Learning Test (Chinese version) for screening dementia and mild cognitive impairment in Chinese population

**Version:** 1  **Date:** 13 August 2012

**Reviewer:** Donald J Connor

**Reviewer's report:**

The utility of Hopkins Verbal Learning Test (Chinese version) for screening dementia and mild cognitive impairment in Chinese population.

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This was a well designed and executed study with a particular strength in the population sample. It contributes to the literature by expanding and comparing the normative data on the HVLT to a Chinese population. It is well organized and the analysis is appropriate.

1. Is the question posed by the authors well defined? YES
2. Are the methods appropriate and well described? YES
3. Are the data sound? YES
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? YES
5. Are the discussion and conclusions well balanced and adequately supported by the data? In general yes (see comments below).
6. Are limitations of the work clearly stated? In general yes (see comments below).
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? YES
8. Do the title and abstract accurately convey what has been found? YES
9. Is the writing acceptable? NO. The manuscript needs significant editing for grammar and redundant statements. The concepts and information in this study are somewhat difficult to begin with so the authors should be commended for their efforts, but there were a few places where the writing confused the results.

Discretionary Revisions:

1) Would be helpful to clarify if “clinician’s interview” in criteria for aMCI you mean the MMSE (not an interview) or if there was a separate clinical interview.
2) Total Recall Score and Total Score are easy to confuse. This was not used in the HVLT-R so I am not sure this was the original terminology in the earlier version. If possible, Total Learning Score and Total Score might be easier for the
reader to discriminate.

3) Since MMSE was used in the definition of the groups, it might be interesting to look at a ratio (HVLT score / MMSE Score) to see if that is predictive of AD group vs other dementia.

4) There was a spread of age and education in the healthy controls and aMCI that may make it difficult to use one cut point of the HVLT to differentiate them. The authors may want to look at separating their groups into two age (or education) ranges and see if different cut points in each would improve group separation, but this should not be a requirement for publication.

Minor Essential Revisions:
1) The “gold standard” for how your groups were determined should be stated clearly and in the abstract. As I understand it, it was based on CDR score.
2) Needs reference for CDR (page 5).
3) Definition of aMCI group has typo on criteria 3 (numbered as “2”).
4) Definition for dementia lists “neuropsychological assessments (under criteria #1 although it does not have a #1 listed – typo?), but does not say what they are. If it is meant to be the MMSE, be aware this is not a neuropsychological instrument, it is a mental status screening instrument.
5) Section on page 6 beginning “Every participants were underwent” should be moved to beginning of methods.
6) The paragraph on page 7 beginning “The ROC curves were produced by plotting the sensitivity” seems redundant as was stated above.
7) Under discussion, a reference is needed for “This study showed that we can obtain the best balance between sensitivity and specificity for detect the NC from AD and all type dementia with the HVLT total recall cutoff score 15.5. Other study also demonstrate this results. But much lower than the 18/19 cutoff score obtained by other study with sensitivity 0.96 and specificity 0.80.”
8) Please include in discussion a consideration of the dementia cut points in light of the severity of some of your subjects. In this case specificity may be more important than sensitivity when including subjects with severe dementia, who would not be mistaken for a control by any clinician (e.g. most with an MMSE of 10 will be self-evident).

Major Compulsory Revisions:
1) All “p<” are 0.000. They should end in a number (e.g. p < 0.001). I am not sure if these were very significant findings or typographical errors.
2) Need to clarify what is the group classification if CDR = 0.5 but memory scale =0.
3) Exclusion criteria lists “depression or psychosis of juvenile onset”. What if there was onset of schizophrenia in their 30’s? What about significant depression occurring a decade prior to examination? It is also unclear if this exclusion criteria is for all groups or just aMCI.
4) For definition of dementia, how is the requirement for “2 or more cognitive domains” determined (page 6)? Is it based on CDR domains, clinical interview, MMSE, etc?

5) “Completely neuropsychological assessment” is mentioned on page 6 but it is unclear what tests were used and what these results were used for. If not listed, need to refer to previous work where they were listed in detail.

6) The word “Discrimination” appears in the results section without being defined prior. Is it meant to mean the same as the Recognition score described previously? This seems to vary throughout the paper.

7) If MMSE score was used to define the groups, you can not use it in the results section. By definition it has to be different between groups.

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

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.