Reviewer's report

Title: Validation of multi-stage telephone-based identification of cognitive impairment and dementia

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Reviewer: Eva Hogervorst

Reviewer's report:

1. Is the question posed by the authors new and well defined?

This study evaluated the validity and reliability of the TICS-m and a functional telephone questionnaire when compared to a gold standard-in person assessment of dementia in 38 participants of whom only 5 were found to have dementia, 4 a form of cognitive impairment and 29 were normal.

I am not sure what this paper adds as firstly, much larger studies have investigated the validity of the TICS-m for dementia. Secondly, a paper by Lines et al. 2003, not mentioned by the authors, also investigated MCI in a much larger group:


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OBJECTIVES: To evaluate the utility of telephone screening for identifying subjects with amnestic mild cognitive impairment (aMCI) for enrollment in a clinical trial and to identify which elements of the modified Telephone Interview for Cognitive Status (TICS-m) best predicted the in-clinic determination of aMCI. METHODS: Subjects aged >/=65 years with memory complaints responded to an advertisement for a clinical trial by calling a central telephone recruiting agency. To determine eligibility, subjects went through a stepwise selection procedure involving a review of major protocol inclusion and exclusion criteria, followed by administration of the Category Fluency Test (CFT) and then the TICS-m. Subjects meeting entry criteria, who obtained a score of /=24 on the Mini-Mental State Examination and a score of 2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

The authors state that dementia in this study equates AD (which according to table 1 was according to NINCDS/ADRDA) but subsequently don’t describe how many subjects had possible AD. This is important as several studies found that this category has little validity with regard to post-mortem confirmation of AD and has low specificity. Up to half of participants categorized as AIC, 2 possible AD, etc. have been found to have other forms of dementia or psychiatric disorders, for instance. It is not too difficult to distinguish between cases with dementia (e.g. using DSM-IV criteria) and controls (sensitivity) but as stated, larger studies have already assessed the value of the TICS-m against these type of outcome parameters. Duration of follow-up is important in validity of assessment when compared to post mortem confirmation but is unclear what the average follow-up interval was and whether all cases had had a follow-up.

The main problem with this paper is that there really are too few cases with actual dementia or MCI. The categorization of MCI (not described in the results) or AAMI is not satisfactory. This is a difficult
category but with 4 cases there is not much you can say about diagnostic accuracy, I would think.

3. Are the data sound and well controlled?

Education, age and depression can influence scores significantly and these have been not controlled for in analyses as covariates with diagnoses as an independent variable and test score as a dependent variable. The numbers are really too small for this so analyses could not realistically have been carried out anyway. The authors would need to increase the number of cases substantially.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

I find several of the tables superfluous and there is no mention of possible and probable AD categories in the tables which is most important. Categorization of MCI is not described in the tables adequately.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

The case numbers in this study are too small in my opinion to make a meaningful contribution to the field.

6. Do the title and abstract accurately convey what has been found?

No, see above

7. Is the writing acceptable?

Yes

What next?: Reject because too small an advance to publish in any journal

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests