Reviewer’s report

Title: The Dementia and Disability Project in Thai elderly: Rational, Design, Methodology and early results

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Reviewer: Gad Marshall

Reviewer’s report:

This is a thorough description providing background about the rationale and methodology of a new important project, the Dementia and Disability Project in Thai elderly. This project is likely to yield interesting, important, and much needed data over the coming years in the Thai aging population. The project has a similar design to other projects in the U.S., Europe, and Australia.

Major Compulsory Revisions:

1. The authors report essentially only descriptive statistics for their first cohort of participants in this project. However, they have enough data to perform some preliminary analyses regarding the important associations they mention in the Discussion section, which have been looked at with other studies (ex: relationship between cognitive function, vascular risk factors, and dependence). A regression model including various relevant predictors and an outcome measure (ex: dependence or activities of daily living) can be performed. On the other hand, if the authors prefer to use this manuscript for solely for the purpose of introducing the project and its background, they should more clearly state that in the Introduction and Discussion section and then mention that future analyses, such as my suggested analysis above, will be carried out over time.

Minor Essential Revisions:

1. In the Discussion section the authors mostly review related studies but do not put the current study sufficiently in context, again possibly because most of their analyses were descriptive. That said, they should try to tie in their study more consistently throughout the Discussion.

2. The authors use the term “treatment gap” in the abstract. This is only defined later in the Results section. This is not necessarily a universal and commonly used term. Therefore, it might be easier for readers to understand what they mean if they change it to “participants who have untreated diabetes or hypertension”.

3. In the Introduction/Objectives section and later on as well (Subjects and Methods section), the authors mention a “1-2 year follow-up period”. It is unclear if they mean follow-up visits at an interval of 1-2 years or a total follow-up period of 1-2 years (conflicting information is presented). This needs to be clarified and stated consistently throughout. Also, in the Follow-Up Assessment section, the authors should clarify whether participants had one or multiple follow-up visits.
4. In the Subjects and Methods section, in the first large paragraph, the authors mention that standard neuropsychological tests will be used and provide references (#19-22). However, those references are only for memory and naming tests. They need to add references for tests of attention, executive function, and visuospatial function.

5. In the Subjects and Methods section, in the first large paragraph, the authors discuss sample size. This seems a bit out of place and is important enough to appear in a sub-section of its own.

6. In the Subjects and Methods section, in the Exclusion section, item #2, it is unclear if the authors mean that subjects with baseline severe illnesses will be excluded from the very beginning or will be dropped out when they develop severe illnesses.

7. In the Function and Clinical Assessments section, when the authors discuss comorbid diseases, they mention taking platelet anti-aggregation drugs as an example of cerebrovascular disease, but this could be a primary preventative or treatment measure for cardiovascular disease and does not necessarily reflect cerebrovascular disease.

8. Tables 3 and 4 reported Chi-square statistics and p values, but these are not reported at all in the Results section. The authors should mention these in the Results section along with a verbal description.

9. In the Discussion section, the authors mention that 9% of Thai elders need assistance in basic ADL and 57% need help in instrumental ADL. These numbers appear to be a simple additive value of the percentages listed for each basic and instrumental ADL item. However, those items might be overlapping. Therefore, it would be better to report how many participants had 1 or more impaired ADL item.

10. Table 3 has misaligned rows, which makes it hard to interpret the data. Moreover, it is not entirely clear what each group represents (ex: Table 4, is the broad group of “History of Hypertension” meant to represent participants with “History of Hypertension who are being treated”? It is unclear, what the “Yes” and “No” are referring to).

11. In Table 4, the authors should include percentages for the subjects in each column of the Total row (not just the final Total column).

Discretionary Revisions:

1. The authors refer to the clinically normal elderly as “non-case”. It might be easier to understand what they mean if they use a term such as “clinically normal elderly” or “cognitively normal elderly” or “normal older controls”.

2. In the Function and Clinical Assessments section, the authors might consider shortening the description of the TUG, GUG, and Tinetti assessments.

3. In the Discussion section, the authors mention that 90% of Thai elders have WML, but they lumped together mild-severe WML, which clinically do not necessarily mean the same thing. It would be useful for the authors to also mention that of those 90%, 52% had mild WML.
**Level of interest:** An article of importance in its field

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

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.