Reviewer's report

Title: The 10/66 Dementia Research Group's fully operationalised DSM IV dementia computerized diagnostic algorithm, and its criterion validity, compared with that of the 10/66 dementia algorithm, against clinician diagnosis: a population validation study.

Version: 1 Date: 12 January 2008

Reviewer: Jan J DE LEPELEIRE

Reviewer's report:

Major compulsory revisions

The methodology is far form clear. After a half day puzzeling with the data, I still don’t understand major elements in the methodology. Important questions remain. Until these are not clarified, a proper evaluation is impossible.

- If I understand well, in the described group of patients, three elements are compared to each other: the clinical Cuban diagnosis, based on the 10/66 algorythm, DSM-IV computerized algorithm and 10/66 algorythm. Is here not a bias because you compare an algorithm with a clinical diagnosis based on the same algorythm?

- Word fluency test: why taking a part of a validated instrument, and use it in a non validated way?

- Idem for the adapted Cerad: adapted how, based on what? Described where? Validated how?

- Idem for the modification of the HAS.

- Description of the content of the physical and neurological examination should be desirable.

- The interview at the end of GMS, was it additionally or a part of GMS?

- The 10/66 algorythm: is it described in the first section under the heading measures?

- Operationalisation of DMS IV algorithm: I suppose this is the computerized algorithm?

- Criterion A 2: Informant opinion about decline: it has been proven that the informant opinion is far from reliable.

- Did the clinician take all the information? In one session? What was the time needed for this session? If so, wasn’t there an experience of tiredness causing unreliable data? If it was done at several moments for each participant, what was the time delay between different moments? Was it then done by the
same investigator?
- How many different physicians were involved? What was the basis of their expertise in dementia diagnosis? What was the interrater reliability between the different physicians?
- Was the clinical diagnosis made at the same moment by the same person as the DSM IV computerized diagnosis?
- In table 6 NPI, CDR and Whodas are mentioned. Where in the methodology section is described that these instruments were performed? At what moment by who?
- In the results section it is mentioned that the group consisted of 1887 participants while later on the full sample has 2909 persons? Where are the 1022 persons left?

Minor comments
- lack of numbering the pages
- Is there an important difference between DSM-IV and IV-R?
- All eligible persons were included: no refusals? No dropouts? I nearly can not believe it.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Quality of written English: Acceptable

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