Reviewer's report

Title: Subclinical Hyperthyroidism and Dementia: the Sao Paulo Ageing & Health Study (SPAH), a cross-sectional study.

Version: 1 Date: 15 February 2010

Reviewer: Leon Flicker

Reviewer's report:

The authors have sought to examine a cross-sectional association between thyroid function test results and the presence of dementia. They had hypothesized that there may be a U shaped relationship between thyroid function and dementia. They found an association between dementia and subclinical hyperthyroidism. In general the paper is clear and well written.

Major compulsory revisions

1. The subjects with dementia had a markedly lower BMI. This may have confounded the association in addition to the age association. Is it possible that the people with lowish TSH actually had a sick euthyroid condition due to systemic illness or malnutrition? What happens to the effect estimate after adjustment for BMI?

2. We require more information about the laboratory and other characteristics of the people with subclinical hyper- and hypo-thyroidism, including the mean and range of the TSH and FT4.

Minor essential revisions

Were the 34% who were not included in the study similar to the ones included? More details are required

“Diabetes was defined as a medical history of diabetes, use of medication for diabetes treatment, or a fasting blood glucose # 126 mm Hg [20]” the authors meant mg/dl (I would prefer SI measures)

Figure 1
33 refers to subclinical hyperthyroidism group

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.
Declaration of competing interests:

'I declare that I have no competing interests'