Reviewer's report

Title: Determining the Impact of Medical Co-morbidity on Subjective and Objective Cognitive Performance in an Inner City Memory Disorders Clinic: A Retrospective Chart Review

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Reviewer: John G Keilp

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The manuscript describes a study of Memory Disorder patients who were evaluated for medical comorbidity, objective memory/cognitive impairment, subjective memory/cognitive complaint, depression, and various demographic factors. The authors found a relationship between medical comorbidity and objective cognitive disturbance, and an independent association between depression and subjective cognitive complaints.

The study has a reasonable sample size, and replicates a number of previous findings regarding the association between objective cognitive measures and actual medical dysfunction and the association between subjective cognitive complaint and mood disturbance that is stronger than the association to actual objective impairment.

Its major weaknesses are (1) a lack of any description of methods used to diagnose depression and/or absence of any depression severity rating scale, and (2) more extensive statistical procedures to control for some of the interactions among the variables.

1. (Major Compulsory Revision) The authors must provide greater detail about the procedures used to diagnose depression.

2. (Minor Essential Revision) In results, authors stated that “depression correlated with all measures of objective cognitive function” but the table indicates that it correlated with subjective complaints only. This may be a typographical error.

3. (Major Compulsory Revision) In results, age may be a significant covariate or suppressor variable. MMSE is known to be affected by both age and education level. In the results reported, it is possible that either depression or subjective memory complaint may be associated with objective memory/cognitive performance after the effects of medical comorbidity are removed. In other word, medical comorbidity may have the most pronounced effect on memory/cognitive performance, but there may be some residual association to depression, or to subjective complaints. This could be tested statistically, although it might require using parametric statistical methods.

4. (Minor Essential Revision) In discussion, authors state that medical
comorbidities may affect functioning of the frontal lobes, and cite the correlation with BNA executive function as supporting evidence. This is a bit of a stretch, however, since it is more likely that significant medical comorbidities are likely to affect a variety of functional capacities. Authors should remove or qualify this statement.

5. (Major Compulsory Revision) The authors correctly conclude that elderly subjects with medical comorbidities and memory impairment are at risk because they do not accurately report, or may not be aware of, the extent of their memory difficulties. However, this is not surprising because study after study after study has shown that subjective memory complaint is more strongly correlated with mood disturbance than it is with objective memory performance. The data in this study is interesting because it reveals that this association holds even in the context of significant medical illness. This should be highlighted in the discussion.

**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.