Reviewer's report

Title: Falls and Fear of Falling: The Role of Sustained Attention in Older Adults.

Version: 1 Date: 7 October 2011

Reviewer: Kim Delbaere

Reviewer's report:

This study aimed to investigate whether impaired sustained attention is related to falls and fear of falls in older people. In light of the current literature on this topic, the research question is relevant and interesting, the study protocol is adequate, and the sample size is large. However, I do have some major concerns regarding the statistical analyses of the data.

1. My main issue is related to the population sample.
   - Could you please provide detail on the recruitment strategy of the people attending the TRIL clinic? It is unclear what the representativeness of this ‘convenience’ sample is towards the general population. Looking at Table 1, it seems that the proportion of female participants is quite high (>70%) and the physical characteristics imply that the sample comprises relatively fit, healthy older adults.
   - Could you provide a rationale as to why the 168 people who could not complete the SART were excluded from the paper? Considering the size of this subsample, this seems like a waste of valuable data. (Btw, 624 minus 458 is 166, please check whether your numbers are correct.) Then, in a second instance, another 74 participants were excluded from the variability analyses because of a large amount of zero answers. There are different ways of dealing with ‘unable’ scores (e.g. use mean +/-3SD) rather than simple deleting these cases.

2. Your definition of faller types is somewhat unconventional and warrants a rationale. What is the additional value of using these faller types – why not just stick to fallers versus non-fallers?

3. Some minor points/suggestions:
   - Provide a clear rationale for choosing only the 458 participants who were able to perform the SART, in the introduction or at the very start of the Methods. (or use the entire sample instead, see previous comment)
   - Provide more detail regarding the physical and psychosocial measures used. I.e. brief explanation of the tests (incl. references), explanation of the score (high score good or bad?), etc.
   - Use parametric statistics with normalized data rather than non-parametric statistics where possible.
   - What is the purpose of Table 3? It is not mentioned in the text and is actually showing some very unimpressive correlations.
- The relation between executive functioning and falls is a lot better established than implied in this paper. Both the introduction and discussion need an update of the literature in this regard.

- Considering the submission of this paper to a general geriatrics journal, I suggest to rewrite certain sections for a more general medicine audience – at times it is very technical – and to elaborate further on the clinical relevance of the results.

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.