Author's response to reviews

Title: Mobility and cognition are associated with wellbeing and health related quality of life among older adults

Authors:

Jennifer C Davis (jennifer.davis@ubc.ca)
Stirling Bryan (stirling.bryan@ubc.ca)
Linda C Li (ll@arthritisresearch.ca)
John R Best (john.best@ubc.ca)
Chun Liang Hsu (liang.hsu@hiphealth.ca)
Caitlin Gomez (caitlin.gomez@hiphealth.ca)
Kelly A Vertes (kelly.vertes@hiphealth.ca)
Teresa Liu-Ambrose (tlambrose@ubc.ca)

Version: 4 Date: 31 March 2015

Author's response to reviews: see over
Additional Editorial Comments: 

Copy Edit- We recommend that you copyedit the paper to improve the style of written English. If this is not possible, you may need to use a professional language editing service. For authors who wish to have the language in their manuscript edited by a native-English speaker with scientific expertise, BioMed Central recommends Edanz (www.edanzediting.com/bmc1). BioMed Central has negotiated a 10% discount to the fee charged to BioMed Central authors by Edanz. Use of an editing service is neither a requirement nor a guarantee of acceptance for publication. For more information, see our FAQ on language editing services at http://www.biomedcentral.com/authors/authorfaq/editing.

Response: Thank you, we have edited our paper.
Reviewer's report

Title: Mobility and cognition are associated with wellbeing and health related quality of life among older adults

Version: 3

Date: 11 March 2015

Reviewer: Kristin Taraldsen

Reviewer's report:

This cross-sectional study explores the association between cognitive function and mobility and wellbeing and health related quality of life in a sample of 229 home dwelling older persons.

Major Compulsory Revisions:

My main concern with this paper is, as it was before, the justification of why this study is important. It is difficult to approve the paper as it is. The value and limitations of the results should be presented more precise and you could also be clear in the structure, for example your description of outcome measures, presentation of results, and a clearer presentation of the study population earlier in the discussion.

Response: Thank you for the opportunity to clarify the importance of this study. We have re-structured the presentation of results and discussion.

Action: Please see revised results and discussion.

1. Throughout the paper you should be more consistent in your definition of outcome measures. For example; define the SPPB either as a measure of mobility and balance or as a measure of mobility, and if you define MoCA and DSST as measures of executive functions (line 224) you should describe this also in the method.

Response: We have modified our manuscript as suggested.

Action: Throughout the manuscript we now define the SPPB as a measure of mobility and balance. We have also described the MoCA and DSST as measures of executive functions in the method section. On pages 7&8, it now reads: “Executive functions

There is no unitary executive function – rather, there are distinct processes. Three key executive processes that are distinct processes include: 1) selective attention and conflict resolution (or response inhibition) [1]; 2) set shifting; and 3) updating (or working memory). Executive functions will be assessed using the Montreal Cognitive Assessment (MoCA). The MoCA is a brief screening tool for MCI [2] with high sensitivity and specificity, was used to categorise participants as with, or without, possible MCI. It is a 30-point test covering eight cognitive domains: 1) attention and concentration; 2) executive functions; 3) memory; 4) language; 5) visuo-constructional skills; 6) conceptual thinking; 7) calculations; and 8) orientation. Scores
below 26 are considered to be indicative of possible MCI. A bonus point is given to individual's with less than 12 years of education. Information processing speed will be indexed using the Digit Symbol Substitution Test (DSST) \(^{35}\). For this task, participants first present with a series of numbers (1 to 9) and their corresponding symbols. They are asked to draw the correct symbol for any digit - placed randomly in pre-defined series - in 60 seconds. A higher number of correct answers in this time period indicated a better executive functions and processing speed."

2. In the abstract it would help to include more information, include p-values also when not statistical significant and add information about how strong the associations between your measures are.

**Response:** We have modified the abstract as suggested.

**Action:** Please see revised results section in abstract. On page 2, it now reads: “The SPPB was significantly associated with HRQoL and with wellbeing after adjusting for known covariates (p < 0.05, Unstandardized \(\beta\) (Standard Error) 0.023 (0.006) for HRQoL and 0.016 (0.003) for wellbeing). The MoCA was significantly associated with wellbeing after adjusting for known covariates (p = 0.006, , Unstandardized \(\beta\) (Standard Error) 0.005 (0.002) ) but not with health related quality of life (p>0.05)."

3. Make stronger justification for the secondary objective.

**Response:** Upon reflection, we have decided that our secondary objective was not specifically answered within this study. Therefore, we have now deleted our secondary objective and modified our primary objective.

**Action:** On page 5, it now reads: “Hence, the primary objective of our study was to determine and compare key factors relating to mobility and cognitive function that explain significant variation in HRQoL and capability/wellbeing among community dwelling older adults.”

4. If you only included measures from baseline this is your only examination, and I would suggest that you present this as “examination" instead of “baseline" throughout

**Response:** Thank you for this suggestion. We have corrected the wording throughout the manuscript.

5. Decide if you will describe results in text or in Table 1. Be clear in your Tables. If you decide to use abbreviations you should add an explanation of these, and you could also include information f.ex about range for possible values. Consider to make one separate table for the background characteristics and one for the outcome measures.

**Response:** Thank you. We have revised our results and Tables to improve the overall clarity.

**Action:** Please see revised results and Table 1.

**Minor Essential Revisions:**

6. You have described MoCA two places in the methods, suggest that you delete “…and the Montreal Cognitive Assessment (MoCA).” Line 176-177.
Response: We have modified the manuscript accordingly.

Action: MoCA is now deleted from Line 176/177.

7. Correct typos line 76
Response: We have corrected line 76.

Action: Line 76, now reads “Impaired cognitive and mobility critically impact older adult’s HRQoL and wellbeing [3, 4].”

8. Adjust information line 99-101, do not need to repeat information.
Response: We have modified the manuscript accordingly.

Action: On page 5, it now reads: “We conducted a cross-sectional analysis of a cohort of 229 participants (complete case analysis) who presented to the Vancouver Falls Prevention Clinic from June 2010 through October 2013 for a baseline assessment.”

9. Suggest that you consider moving line 122-124 up to the end of “study design” (to line 102)
Response: The manuscript has been modified as suggested.

10. Line 127: include measures of quality of life here?
Response: Quality of life measures were not part of the inclusion criteria; therefore, we did not list them in this section.

11. “A cut-off of 26 or lower is used to classify individuals with mild cognitive impairment” line 215-216 is also described in the method section, and could be deleted from the results.
Response: Thank you. We have deleted this repetition from the results.

12. Suggest to delete “..., a measure of mobility,...” line 222-223
Response: Thank you. We have deleted this phrase from the results.

Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
Declare no competing interests
Reviewer's report

Title: Mobility and cognition are associated with wellbeing and health related quality of life among older adults

Version: 3

Date: 17 February 2015

Reviewer: Rachel Ward

Reviewer's report:

The authors have thoroughly addressed all of my comments.

Response: Thank you for your helpful reviews.

Action: We have edited the manuscript in its entirety.

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
References


