Reviewer's report

Title: A systematic review of the efficacy of self-management programs for increasing physical activity in community-dwelling adults with acquired brain injury (ABI).

Version: 3
Date: 4 March 2015

Reviewer: Rebecca States

Reviewer's report:

Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

1. Lines 143-147: It seems that when identifying studies for inclusion, the authors focused exclusively on participants with either stroke or TBI. Given that they acknowledge excluding brain injuries due to degenerative disease, FASD, and CP, their definition of ABI as “damage to brain occurring after birth” is too broad to be accurate. They should either include degenerative diseases and broaden their search terms to specifically look for those diseases, or revise their definition of ABI. Are there any brain injuries besides stroke and TBI that they would consider? If so, what are those? If it’s only stroke and TBI, that should be explicitly stated both here and throughout the paper, including importantly in the introduction and conclusions. Focusing only on people with stroke and TBI seems quite reasonable as these conditions are probably the most prevalent traumatic, non-degenerative, brain injuries.

- Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

2. Line 421: I suggest that future studies employ objective measures of physical activity along with validated self-report measures that can capture participation in broad ranges of physical activities. It’s really too early to ask for consistent measurement as the literature has not explored a full range of potential outcome measures.

3. Line 427: This paragraph is a good addition though it doesn’t adequately portray the major differences in physical limitations that are likely to exist between stroke and TBI populations. The vast majority of people with stroke have major definable sensory, motor, or movement control limitations, whereas a substantial portion of people with TBI primarily suffer from cognitive and memory disorders that don’t affect movement behavior as directly. In addition, the similarities in terms of levels of inactivity and barriers to participation in physical activity are not remarkable as they are probably also similar to the barriers experienced by a huge number of older adults with other chronic diseases such as diabetes, cardiovascular disease, arthritis, dementia, etc.

4. Line 438: Include something at the beginning of this paragraph like: The
evidence on this question is even more limited and preliminary.

5. 498:504: The discussion of habit formation seems somewhat arbitrary and out of place here. The point has already been made that self-management programs should be based on sound theoretical models. I'm not sure how the discussion of habit formation, per se, derives from the studies reviewed here.

- Discretionary Revisions

6. Lines 200-202: Use the actual number of studies that examined stroke or TBI for clarity. Four studies for stroke and one for TBI?

7. Lines 364 – 376: This paragraph does a good job of pointing out the limitations of the available literature that meets the authors’ eligibility criteria. It also suggests that attempting a systematic review on this topic is a bit premature, and a summary of studies using less rigorous designs could be beneficial. I would welcome a brief summary of what literature is available from studies using less rigorous designs as it would help shed light on whether research is being done toward the goal of defining appropriate programs or not.

8. Line 381: replace “does warrant” with “also warrants”?

9. Lines 459-467: This paragraph could be deleted as it’s obvious from the rest of the review that the literature is not yet at a stage where cost-benefit analysis would contribute much to our understanding.

10. Line 497: Insert “programs” or some noun after “self-management”.

**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.