Reviewer’s report

Title: Implementation fidelity in a complex intervention promoting psychosocial well-being following stroke: An explanatory sequential mixed methods study

Version: 0 Date: 29 Sep 2018

Reviewer: Jimmy Le

Reviewer’s report:

Thank you for the opportunity to review the manuscript titled "Implementation fidelity in a complex intervention promoting psychosocial well-being following stroke: An explanatory sequential mixed methods study". The authors describe a very important and novel intervention that is being evaluated in a randomized controlled trial; the authors sought to examine "implementation fidelity" of this intervention, which may be of considerable interest to the community because stroke is a major public health issue and psychosocial well-being may be affected by stroke. However, I have a number of concerns with how the manuscript is structured and encourage the authors to review and revisit their manuscript.

1. The presentation of this manuscript is difficult to follow and cannot be understood easily by readers. The writing style is inconsistent and the arguments could be better framed. For example, how you state your research question varied considerably by section/paragraphs:

   o In the Abstract-- "to EVALUATE implementation fidelity within the RCT…" (page 3)

   o In the Introduction-- "to DETERMINE to what extent the intervention was delivered" (page 5)

   o In the Introduction-- "to EXPLORE to what level of fidelity implementation ADHERENCE was achieved and to IDENTIFY which potential moderating factors affected intervention adherence and overall implementation fidelity" (page 8)

   o In the Methods— "to DOCUMENT implementation OF THE INTERVENTION within the RCT AND TO BE ABLE TO EVALUATE implementation fidelity" (page 11; lines 6-8)

   o In the Methods— "to GAIN AN IN-DEPTH UNDERSTANDING of THE IMPLEMENTATION of the intervention and the potential moderating factors affecting implementation fidelity" (page 11, lines 18-22)
In the Discussion—"to DETERMINE to what extent the intervention was delivered…and to DISCUSS how adherence measures and potential moderators may have influenced…"(page 24)

It is unnecessary to state your aims so many times, and if you choose to do so, then please make them consistent.

2. I encourage the authors to carefully review and revise their presentation of the methods and results, which are also inconsistent and incoherent.

   o You need to define implantation fidelity and make it clear whether you are examining fidelity to the actual randomized controlled trial (RCT) or to the intervention.

   o You also need to describe the participant eligibility criteria—not only inclusion/exclusion criteria for the RCT, but how participants were selected for your qualitative study. Why were only 39 out of the 166 people randomized to the intervention arm invited to participate in individual interviews? Moreover, why limit to only participants randomized to the intervention arm? In the results, it would be nice to see characteristics of the actual interview participants, not the entire 166 people in the intervention arm.

   o Provide more detail about your qualitative analysis plan--what are the categories of adherence and potential moderators. What is a deductive approach? How many coders? (Who conducted the interviews?)

   o The conclusions drawn are not supported by the results. You reported that "[t]he qualitative interviews with participants and IP CONFIRMED that individual adjustments were made in terms of the content, frequency, order…" As presented, I am not convinced the qualitative phase (which is presented in the methods as an exploratory step gain in-depth understanding) was designed to confirm any hypothesis; and if it was, then state your hypothesis in the Methods.

   o Revisit your limitations—what are limitations of the study/study design versus limitations of the data. Currently, most of your discussion is focused on the latter.

3. The implementation fidelity measurement (in the supplement) is also extremely interesting but more information could be provided. You used a composite score—can you provide justification that each component of the composite carry the same weight? Examples help.

   In brief, please carefully review and revise the writing and remove repetitive text. While grammar seems to be fine, I find this manuscript difficult to follow from paragraph to paragraph.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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