Reviewer’s report

Title: Title App-Based Supplemental Exercise During Inpatient Orthopaedic Rehabilitation Increases Activity Levels: A Pilot Randomised Control Trial

Version: 0 Date: 21 Nov 2018

Reviewer: Claire Cameron

Reviewer's report:

This is a very thorough and well reported account of a pilot study looking at the acceptability and feasibility of using an app based exercise program for people in orthopaedic rehabilitation. The reporting is in keeping with the CONSORT statement and generally, I think this is a great piece of work.

I just have a few questions and suggestions - actually, it looks like a lot, but I don't see these as major issues:

1. It wasn't clear to me whether you knew that the people in the study actually did the supplementary exercise - either with the paper diary for the controls or in the app for the intervention. Could they report that they had done it and then not do it? Then, does it matter whether they actually do it or not?

2. At the end of the intervention section you say "the blinded assessor was not a treating clinician or a principal investigator on the study and was a researcher based at Macquarie University". What is the purpose of that blinding? What does that researcher have to do with the study?

3. In the Data Analysis section you say "Independent T-Tests were used to compare the means between the two groups". I think you need to be more specific. Did all comparisons use this test? You have reported confidence intervals and p-values. Are all those p-values from t-tests? (t-test should not be capitalised, by the way).

4. You have done tests comparing all the characteristics of the people in the groups at baseline. The main CONSORT statement does not support this (although, the version for the pilot and feasibility trials does not mention this specific point). I would recommend taking those tests out.
5. In table 2 you have reported confidence intervals for the difference in the totals when the difference in the means would seem more relevant and what you describe reporting in the Data Analysis section.

6. You report results for the subgroup of over 65 years. How many people are in this group? It seems quite bold to report on a subgroup when there are only 20 people in total in the study.

7. I would remove Figure 2. I don't think the graph adds anything to the understanding of the paper. You would be better off just talking about it in the text.

8. In paragraph 1 of the Discussion you discuss the quantitative results - including a very marginal 0.049 p-value. I don't think that these inferences should be made here as it is a pilot study. If these results are credible, then there would be no need for a larger study. I would regard as purely indicative at the piloting stage.

9. Your conclusions should be tied more closely to your research questions, in my opinion. In particular, you have found that the App based supplemental exercise programs are both accessible and feasible in orthopaedic rehabilitation patients.

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