Reviewer’s report

Title: EMPOWER-PD - A physical therapy intervention to empower the individuals with Parkinson’s disease: a study protocol for a feasibility randomized controlled trial

Version: 0 Date: 23 Jul 2018

Reviewer: Stephen Bremner

Reviewer's report:

This protocol paper provides a fine detailed and well written description of a pilot RCT of a physical therapy aimed at empowering participants who have Parkinson's disease. The manuscript would benefit from some minor revisions to improve readability. I could not find the expected number of participants in the groups sessions. Would all 12 participants be expected at the same EMPOWER-PD session, or would the participants attend smaller groups? How will the authors judge the feasibility of conducting a definitive trial on the basis of the current protocol e.g. >80% of recruited participants retained to final follow-up?

In the abstract:

Line 29: Please state who is blinded, rather than stating 'single blind. Please state pilot for a randomised controlled trial, rather than 'randomized clinical pilot'. The recruitment target (N=24) should be stated, as well as the allocation ratio 1:1.

Typos: line 31 'tough' should be 'through', line 32 'trough' should be 'through'. Remove 'the' from 'in a protocol that addresses the individual preferences.

In the Background:

Line 78: Replace 'EMPOWER-PD will presents with' with 'EMPOWER-PD will lead to' or similar

In the Methods:

Line 103 and elsewhere: the use of 'pillars' is slightly odd, unless this is what they are known was. Could 'goals' or 'levels' be more appropriate?

Line 136: the target sample size should be mentioned and the rationale for choosing this sample size should be explained, with reference to published work on sample sizes for pilot studies. For
example, a sample size may be selected on the basis of obtaining reasonable precision of estimates of standard deviations of outcome measures.

Line 147: "closed and unsealed envelopes" is ambiguous. Why are the envelopes unsealed? This does not protect against selection bias.

Line 158: please replace 'illiterates' with 'illiterate participants'

Line 179: "during the 40 minutes of main part" would read better if written "from the main part of 40 minutes duration"

Line 190: Replace "several materials will be introduced to protocol" with "several materials will be introduced according to the protocol"

Line 192: replace 'pint' with 'paint'

Line 199: replace 'session' with 'sessions'

Line 201: insert 'at' between 'previously' and 'the'

Line 236: this does not describe the recruitment rate, which is the e.g. the number of participants recruited per month. Instead, it describes the proportion recruited who have been retained.

Line 249: I am unsure what 'according to falls risk (<11 seconds)' means. Does it mean that participants who take fewer than 11 seconds to complete the task are expected to be at lower risk of falling?

Line 267: suggest replace 'identificatory' with 'identification'

Line 268: 'on the "on" phase of the medication' may read better written as 'currently taking medication'

Line 269: 'randomized into two groups' would read better as 'randomized into one of two groups'

Line 270 and line 273: replace 'research' with 'researcher'

Line 276: delete 'may'

Line 284: rewrite 'inferences forumulate' as 'formulate inferences'

Line 286: please state version of SPSS used and provide a reference to the software

Line 288: I would not recommend using tests for normality on such a small sample as these tend to have low power. Please state this as a limitation in the discussion.

Line 289: Fitting statistical models and conducting tests is not recommended for pilot studies as they are not usually powered to detect differences; analyses should be descriptive and it should
be planned that 95% confidence intervals will be reported for all estimates. Please remove reference to ANOVA or discuss limitations of low statistical power in the discussion. Rewrite "will be assess by t Independent Test or Mann Whitney U" as "will be assessed by an independent samples t-test or Mann-Whitney U test. "A significance level of 95% was used for all analyses" should be rewritten as "A significance level of 5% will be used for all analyses". However, note previous comment about statistical testing in pilot studies. It would helpful to state what will be done with missing data.

In the Discussion:

Line 302: rewrite 'calculations to an adequate powered analysis' as 'calculations for an adequately powered analysis'.

Line 307: remove the apostrophe from it's

Line 309: 'but an act of love with itself' sounds colloquial. Please find another form of words.

Line 311: 'paradigm shift that opens in the health area' would also benefit from rewriting

Line 388: rewrite 'This study was no supported funding' as 'This study was not supported by any funding'

CONSORT flow chart: top box with MMSE<26 does not cover all of the exclusion senarios mentioned in the methods section

Further, one cannot assume that the target numbers will indeed be recruited, randomised, followed up and analysed. I suggest remove these numbers.

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Please indicate how interesting you found the manuscript:

An article of importance in its field

**Quality of written English**

Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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