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: 25 Jul 2018

Reviewer: Kieran Bromley

Reviewer's report:

Kieran Bromley completed this review under the supervision of Dr Ivonne Solis-Trapala as part of a peer review mentoring scheme endorsed in the journal.

Summary:

The paper outlines the EMPOWER-PD protocol for physical therapy in patients with Parkinson's disease. It aims to assess the feasibility of implementing the protocol in a trial and interpret preliminary results from pilot data.

Comments:

1. In both the abstract and the main paper, the sample size intended for the quantitative components of the study is not mentioned or justified. It is specified in the CONSORT diagram that n=24 across both groups with equal allocation, but this should be explicitly stated within both the abstract and the "Sample size" section of the manuscript, including justification for it, according to the CONSORT guidelines.

2. There are no criteria specified which will determine whether succession to a main trial should be considered. Given that recruitment, retention and safety are all being monitored as feasibility outcomes, these outcomes should have some criteria around them which would then allow informed decisions to be made on the design of a future trial.

3. The manuscript lacks focus making it unclear whether the main aim of the trial is feasibility or efficacy. If the main aim is to determine the feasibility of carrying out a main trial then assessment of feasibility outcomes should be the primary analysis alongside qualitative analysis to determine motivation and empowerment of health. Any subsequent analysis to determine preliminary findings should be listed as secondary analyses. It is perfectly reasonable to analyse some of the outcomes to help determine the necessary parameters for
future power analyses, but a clear explanation is needed on what is going to be assessed and why.

4. The inclusion and exclusion criteria seem quite brief, would they be consistent with the criteria to be used in the main trial? For example, as recruitment is being monitored in the feasibility study, estimates going forward will only apply to the same recruiting centres in a definitive trial, so this may not be a realistic representation of the main trial.

5. The rationale for carrying out a feasibility study and then also for carrying out a future definitive trial need explicitly stating.

6. More information could be provided about the clinical setting in which the assessments are carried out. For example, how exactly is HRmax monitored in the conventional therapy group? Would this be through wearables, chest straps or other equipment? Should availability, ease of use and patients' acceptability of such equipment be monitored as part of the feasibility study?

7. Is this an internal or external pilot? The nature of the trial leads to believing it is external but needs clarifying.

8. Please add to the title that this is a feasibility randomised trial.

9. The grammar and spelling throughout the manuscript could be improved, although it does not affect the understanding of the paper. For example, in the abstract there are two cases of misspelling 'through' as 'trough'. Also, 'One of the most barriers' could be changed to 'One of the greatest barriers'.

**Level of interest**
Please indicate how interesting you found the manuscript:

An article of limited interest

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

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that both my mentor and myself have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal

Were you mentored through this peer review?

Yes: Dr Ivonne Solis-Trapala, Keele University.