Reviewer’s report

Title: A novel behavioural INTERvention to REduce Sitting Time in older adults undergoing orthopaedic surgery (INTEREST): protocol for a randomised controlled feasibility study

Version: 0 Date: 06 Feb 2019

Reviewer: Heather Barry

Reviewer's report:

Review of manuscript PAFS-D-18-00232 "INTERvention to Reduce Sitting Time in older adults undergoing orthopaedic surgery (INTEREST): study protocol for a feasibility study"

Thank you for asking me to review this manuscript. In this study protocol, the authors describe a randomised controlled feasibility study, which aims to evaluate a theory-informed intervention to reduce sedentary behaviour in older adults awaiting hip or knee replacement surgery. This well-written manuscript will be of interest to the readership of the Journal, and would benefit from some minor revisions, which I have detailed below:

1. The title would be more descriptive if it included that it is a 'randomised controlled feasibility trial/study'.

2. On page 6, the authors outline the inclusion/exclusion criteria for patients. Can they provide details as to how potential participants' capability to provide informed consent will be assessed/judged and by whom? Likewise those with moderate/severe cognitive impairment will be excluded - again, how will this be determined (e.g. through MMSE score, what cut-offs will be used, etc.)

3. Some detail was missing from the recruitment process that would be helpful for the reader. For example, what patient lists will be screened? How will these be obtained? Will patients be sent the study material by post (I assume so)? Will the information sheet be accompanied by a cover letter?

4. Regarding the behavioural intervention - I became a bit lost as to how the present intervention was developed; it may be useful to make reference to the MRC framework. Beyond the systematic review that was conducted, how did the research team decide upon the components to include and map these to BCTs? Have the intervention materials been piloted? A concise description of this should be provided. Has there been an external validity check conducted of the BCTs contained within the intervention? Have key stakeholders been involved in intervention development/design and in the design of the feasibility study?
5. There is a lack of detail about the qualitative interviews that will be conducted with healthcare staff. For example, what will the topic guides over? Where will interviews take place?

6. Will any analytical software be used for quantitative or qualitative analyses?

7. There should be a greater description within the manuscript of the tools which have been chosen to measure each of the exploratory outcomes, and the rationale for their use. The are currently only mentioned in Table 2.

8. There are no criteria specified which will determine whether succession to a main trial should be considered.

9. I wondered if any local governance approvals were required, e.g. hospital trust and if this should be mentioned under 'ethical considerations'.

10. The authors acknowledge that the single site design is a limitation. Given this, it would be helpful if they could provide an explanation as to why this study design was chosen.

11. Referencing needs attention. For example, references 7 and 15 are duplicates. Some of the references appear to be incomplete.

**Level of interest**
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:

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 organisation 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 I 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?

No