Reviewer’s report

Title: MOVING: A motivation oriented intervention study for the elderly in Greifswald: study protocol for a controlled, randomized trial

Version: 0 Date: 06 Oct 2017

Reviewer: Heather MacKinnon

Reviewer's report:

Overall, this is an interesting article describing a valuable project. There a couple of minor language issues that may be beneficial to correct and these are detailed below, but overall this is a clearly written paper.

P4L82 "musculoskeletal apparatus" would be better phrased as "musculoskeletal system"

Power calculation: I believe the authors are describing that they expect baseline levels of PA to be 15min per day; however this sentence could be more clearly written.

P10L243 "there" should be "their"

P11L284-5 "receive two times individualised feedback" would be better as " twice receive individualised feedback"

Other comments:

In the Abstract, it would add clarity if the desired increase in PA and reduction in ST were specified.

There is an excellent description of international PA levels but it may be useful to cite any results about PA levels and sedentary time that are available for German population.

The paper would benefit from a description of the "low threshold" that is used to determine who should receive the intervention.
The article would benefit from referring to the wider literature that exists about these type of interventions, including the work of Darker et al (2010 Psychology & Health), French (including his protocol published in 2011 in BMC Family Practice), Baker et al (IJBNA 2008) and the systematic review published by David Ogilvie et al (BMJ 2007). There is a significant evidence base delineating the importance of using Behaviour Change theory to inform intervention design and understanding the constructs that an intervention is intending to change to facilitate the patient to engage in the intervention. The Behaviour Change Taxonomy (Michie 2011 Psychology & Health) has been specifically developed to allow accurate description of interventions to allow understanding of the "active ingredient" of these types of interventions and I would encourage the authors to review this and cite it within the results paper, if not in this paper. This theory base is touched on by the sections describing self-efficacy, but would benefit from further development and is currently not referenced at all.

P8 L201 refers to "general information and recommendations" but details of this is sparse. Again this comment links in with ensuring active elements of the intervention are accurately described - is this solely education material? does it facilitate the patient to set goals?

I would suggest that perhaps the details of how data is stored and protected could be trimmed, but it might be useful to then expand the section describing the accelerometer data analysis and detail which variables are to be used - is all PA to be measured? or just MVPA? how will a period of sitting time be defined? what sampling interval will be used? etc etc

How are the "personalised feedback" letter generated? On what basis are the recommendations calculated?

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