Reviewer’s report

Title: Influencing walking behavior can increase the physical activity of patients with chronic pain hospitalized for multidisciplinary rehabilitation: An observational study

Version: 0 Date: 07 Nov 2018

Reviewer: Fereshteh Pourkazemi

Reviewer's report:

I read your study with great interest. You have investigated and addressed a very important and complicated health issue, and the findings of your study are significantly important. I however, believe that your study requires clarification and further information, in particular in the methods and results sections.

Below is the list of recommendations:

Abstract:

* Please avoid using all unnecessary abbreviations/acronyms (LoL, Sp, UpL, MVPA, PA, WA). Commonly no acronyms are used in the abstract.

* When starting a sentence with a number, please write it alphabetically (i.e., 272 or 93 participants).

* Your study design or analysis are not clear in your abstract. There was no information on the Mixed Linear Model analysis or the measured variables. Later you talk about 12 variables that were included in the model which your reader has no prior knowledge about.

Introduction:

* Ensure your objectives in the abstract and introduction are the same/very similar.

Methods:

* Please avoid using all the unnecessary and uncommon abbreviations/acronyms stated above (in addition, DMR).
* Page 6, Line 118 => Your study did not include a survey only. Why do you mention your study had a cross-sectional survey design. You have administered the BPI survey but also have collected physical activity performance data.

* Page 6, Line 126 => what is the definition of "moderate to severe after-effects"? Please clarify

* Page 6, Line 133-135 => Please write amputation or severe comorbidities as exclusion criteria

* Page 7, Line 140 => suggestion: perhaps you can use thoracic spine rather than dorsal.

* Page 7, Line 150 => Suggestion: Instead of writing a section on the risk of bias in your study, write this section as a limitation of your study in the discussion.

* Page 7, Line 151 => Please rephrase the blue-collar workers

* Page 7, Line 156 => You have to provide further information on the INTERMED score. How is it measured, what is the range and how the scores are interpreted.

* Sample size => Up to this point, there is no information on any model being used in this study and you just talk about a model to justify your sample size. This could have been partially clarified in your abstract. Also, you can include the sample size analysis as part of data analysis, where you also talk about the model and your reader also knows about the variables measured / included in your study. This section should be written clearer.

* Procedure: In general, it requires significant clarification. Although this manuscript is part of a bigger project, it should be clear for the reader without referring to the previous published study. Please clearly state and explain the variables you included in your mix model analysis. You only talk about the variables at the end of your data analysis section.

* Page 8, Line 179 => Why some participants activity level was measured before attending the hospital. Please clarify the aim. What was the number of participants?

* Data Processing => Suggestion: avoid using "we" repeatedly and throughout your manuscript. Preferably use passive tense. But I leave this decision to the section editor as this is acceptable in some journals.

* Please avoid using so many uncommon acronyms: LW, WA, MVPA, WT
* Statistics: This section requires significant clarification. Instead of stating that: "see the recent study by Murphy et al. [44] for an example of hierarchical modelling in the field of PA and chronic pain.", you have to clearly provide this information for your reader. They can access the reference for further information but the reference should not replace any required information in your study.

* Line 217 => It is stated that "the interactions between predictors were first examined through analyses of variance…” Please clarify all the predictors used in your model prior to this statement. You only have clarified the variables afterwards (Lines 223-231).

* Line 232 => The reader should constantly check what each acronym stands for (GLMMs)

Results and discussion

* Participants: Please first summarise some important information on your patient demographics, then refer the reader to table 1

* In the results section, Line 249-50, it is stated that "Regarding PI, we experienced one missing value, which was imputed with the mean value." Did you do the same for other variables such as PA? Because in your discussion, (Line 320) it is stated that "Considering the study's methodology further, we experienced many missing days due to poor compliance in wearing the accelerometer, especially during weekends. We are confident that we correctly captured average PA patterns, given the large number of observations." Please clarify.

Conclusion

* Lines 417-421 do not belong to the conclusion of your study. They can be part of the discussion.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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

Needs some language corrections before being published

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

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