Reviewer’s report

Title: Health coaching for promoting physical activity in low back pain patients: A secondary analysis on the usage and acceptance

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Reviewer: Dagmar Lühmann

Reviewer's report:

Dear authors,

to my view you are investigating a very important question, which - in the light of evolving apps and computerized aides to support behaviour change - should gain much more attention.

Still, before publication, some aspects should be clarified:

Background
Methodological aspect:
To my view your statement on the effectiveness of approaches to promoting physical activity is lacking an explanation that the effect of an intervention is firstly depending on the content of the intervention and secondly on successful implementation. Lifestyle coaching is definitely a complex intervention and its effectiveness depending on various context factors. For the reader it would be important to understand what theoretical framework the intervention is based on, how it was developed (including implementation strategy) and whether and how it was piloted. Building upon that, the research question for the current paper could be derived. Unfortunately the necessary information can neither be derived from the DRKS data, nor from the protocol publication. (This part can refer to Craig P, Dieppe P, Macintyre S, Michie S, Nazareth I, Petticrew M. Developing and evaluating complex interventions: the new Medical Research Council guidance. BMJ. 29. September 2008;a1655.).

Population: The intervention is going to be used in a rehabilitation context of patients with back pain. One component (face-to-face coaching) is applied during inpatient rehabilitation, the other two (phone calls, website) in aftercare. I miss in your introduction referrals to literature regarding the sustainability of rehabilitation measures in general but especially for back pain patients. I attached a literature list of some examples below.

Methods
To clarify a "why" question (" … gain understanding why the multicomponent intervention …..") qualitative study designs would even be more adequate than a short questionnaire. Please state, why you didn't use a qualitative or mixed-method approach.

The description of the study population is rather rough - especially a description of the back pain and other health parameters are lacking (chronic, acute or relapsing back pain, severity of paint, with or without functional impairment, duration of the problem; comorbidities, esp. comorbidities that require adaptation of exercise programs such as osteoarthritis, chronic heart failure). A table with participants characteristics would be helpful.
Intervention: was the handling of the website explained during inpatient rehabilitation?

Measures: please only refer to measures that will be presented in the results part. (GPAQ results are not reported).
Non-standardised questions: Please explain, why you didn't ask for an overall rating and the subjective benefit of the website? That would have made the ratings of the two components better comparable.
Correct typo in Table 2, 2nd column, line 2
Statistical analysis: did you verify that the parameters for which you report means and SD are normally distributed? Otherwise please also give medians and percentiles. (Especially results for the COHEP Scales)

Results:
Table 4: is not quite clear - (n=111) in the telephone coaching 1 "Call duration" cell means 111 probands were reached? And it took 3,5 attempts on average to reach them? Or why is there no n= in the bottom cell?
Furthermore I don't understand the footnote - is it supposed to explain the discrepancy with the text - where it says 113 participated in telephone coaching 1? Please make this easier to understand!
Table 5: The title of the table seems not correct - it is not really "acceptance" what is reported there is some kind of "usefulness rating". And please correct the Scale description for the upper part - according to table 2 the extremes of the Likert scale are "very good" and "very bad". No information should be in bold letters?
Table 6: same problem with the title; and also the extremes of the Likert-Scale don't match table 3.

Discussion: Please discuss your results against the results from rehabilitation research! The conclusion could also refer to the methodology for development and evaluation of complex interventions (Craig et al., see above).

Some Literature concerning interventions to increase sustainability of rehabilitation interventions - just from one group and not meant to be complete!

7. Walther AL, Deck R. [Different Health Impairments at the Beginning of Medical Rehab: Possibilities of more Flexibility using the Example of Rehab Aftercare]. Rehabilitation (Stuttgart). August
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.

Unable to assess

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

No

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 am able to assess the statistics

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

Acceptable

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