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: Berit Steenbock

Reviewer's report:

In their manuscript "Explaining unsuccessful physical activity promotion in low back pain patients: A secondary analysis on the usage and acceptance of health coaching" the authors try to explain why there multi-component intervention failed to prove effectiveness. Generally, if there is poor adherence it is difficult to observe an effect. Therefore, the authors investigate the usage and acceptance of three different health coaching approaches that all together belong to one multi-component intervention addressing physical activity promotion in low back pain patients in a secondary analysis. In multi-component interventions, it is highly relevant to understand which components work for whom and E-health approaches represent a promising and cost-effective method for promoting physical activity, but also require some prerequisites such as Internet access and technology readiness. To analyse the usage of E-health approaches in different target groups and to compare usage and acceptance of face-to-face versus web-based intervention components is still of high relevance. In their manuscript, the authors describe the study population and results in a clear manner. Nevertheless, the following points should be revised:

Background section: Researchers in the filed of physical activity promotion are encouraged to use pilot and feasibility studies before running an RCT. It is well known that factors like unsuccessful recruitment, retention or low adherence are challenging and need to be considered beforehand. Please provide reasons why you did not conduct a feasibility trial beforehand. Did you rely on data from other studies about usage and acceptance of the web-based intervention component for example? It would make sense to provide those data and to explain to the reader why this potentially worked out differently in your specific sample.

Methods section: The authors describe that two interventions have been evaluated previously (p. 4, l. 80). What are the differences between those two interventions. Did you use baseline data from both intervention arms? In line 87 the authors wrote that the secondary analysis is based on T1 data of the intervention group. Which one is it?

What do you mean by that "The researchers sent the T1 and T2 questionnaires by post?" (p. 4, l. 84).

No results should be provided in the methods section (p.5, l. 106-108).

How often did the coach try to contact the patient via telephone (p. 5, l. 117)?

It is not necessary to explain how physical activity has been assessed. This is not part of the manuscript (p. 6, l. 139-140).
Results section: Can you explain why so many patients did not fulfill the COHEP questionnaire (p. 9, l. 213)?
How many patients had face-to-face contact?

Did usage and acceptance vary by age or by sex?

Discussion: What do you mean by "control intervention results" (p.10, l. 229)?

Please add "or neither had no internet access" to line 245 on page 10.

What do you know about technology readiness of your specific sample?

It seems to me that a lot of people from your sample did not have access to the internet. Please provide data about internet access in your target group 18-65 years in your country.

Did you take into account the timing of the three different approaches? The web-based and the telephone-based component, was it both made available only after inpatient rehabilitation? What about the acceptance of those approaches if their are provided during inpatient rehabilitation? Is this really a "strength" or is it the aim of your study (p. 12, lines 279-280).

Table 4: Please be consistent and use the dot as decimal separator.

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

Yes

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

No

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 am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
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