Reviewer’s report

Title: Feasibility and long-term efficacy of a proactive health program in the treatment of chronic back pain: a randomized controlled trial

Version: 1 Date: 29 May 2019

Reviewer: Cary Carrington Reid

Reviewer's report:

This study reports on two year outcomes for a back pain intervention delivered to middle-aged adults with persistent back pain. While the effects of the intervention are modest, positive results were documented at a 2-year follow-up assessment. Given that the vast majority of studies report short-term (weeks to a few months) and intermediate term (6 months to 1 year) this study is relatively unique in providing data out to 2 years. My recommendations for improving the work are as follows:

1. How do you know that the back experts delivered the interventions (recommendations of the National Disease Management Guidelines) as intended?

2. You report that participants received on average 191 minutes of coaching. Not clear whether this represents an amount near the maximum amount desired. Please elaborate.

3. I believe readers will want to know whether number of therapeutic exercises attended and amount of coaching received over the phone were (or were not) associated with treatment outcomes. Other interactions that should be explored include participant age, gender and level of education.

4. Concerns about your primary exposure variable. Table 1 provides the criteria used to determine eligibility, but reviewing these criteria it is not clear to me that your sample would be composed of individuals with persistent back pain. For example, to have 2 cases assigned to an ICD code for dorsopathy over what period of time? A patient could receive two or more opioid prescriptions for an acute pain problem. The temporary work disability could have happened prior to recruitment and not be active. These criteria seems to lack sensitivity for identifying individuals with persistent back pain. Did you consider do a medical record review to determine how participants had a diagnosis of persistent back pain their chart.

5. What was the rationale for using data collected at 2 years for your between group comparisons (as opposed to looking at change scores for individuals who provided data at baseline and follow-up)?
Other issues

1. Title, would recommend removing 'using Zellen's design' from the title, this is not necessary.

2. Abstract, line 11. What are settlement data?

3. Methods section, would provide some description of Zellen's design in your method's section.

4. Methods section: How did you gain access to payroll data. That would not be allowed in the US.

5. Results, did you compare attributes of those who responded to the recruitment letter to those who did not (in terms of the criteria used to determine eligibility for study entry)?

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.

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 am able to assess the statistics

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 organization 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

Do you want to get recognition for reviewing this manuscript? Add a record of this review to Publons to track and showcase your reviewing expertise across the world’s journals. Signing up is quick, easy and free!

No