Reviewer’s report

Title: Targeted Interventions to Prevent Chronic Low Back Pain in High Risk Patients: Development and Delivery of a Pragmatic Training Course of Psychologically Informed Physical Therapy for the TARGET Trial

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Reviewer: Liba Sheeran

Reviewer's report:

To Authors:

Re: Targeted Interventions to Prevent Chronic Low Back Pain in High Risk Patients: Development and Delivery of a Pragmatic Training Course of Psychologically Informed Physical Therapy for the TARGET Trial

This is important and much needed area of study. However, I was disappointed in the lack of rigour and reporting. Method chapter in particular is not very clearly described with key information missing such design, recruitment process, education level of the sample, how many PTs completed what training, type and distribution of the data collected to warrant selection of the tests, or justification of the outcomes selected etc. It was also unclear why some form of formal assessment of the PTs' attainment of the learning objective was not included within the training package. I understand the aim of the study was to attempt to assess this but the choice of the outcomes (PTs' attitudes and confidence) may still not show whether PTs changed their practice or indeed were able to on basis of the training. However, given the importance of this work I would consider a review of a re-write under a major revision if editor feels this is appropriate publication.

Below are my comments to aid authors in their re-submission if they so wish.

Format

Please add page numbers

Title
I suggest adding 'Targeted Interventions to Prevent Transitioning from Acute to Chronic Low Back Pain in High Risk Patients…' to accurately represent what the therapy is aiming to do.
Background 2nd paragraph

Authors state PIPT goal is 1/ identification of high risk individuals and 2/ providing targeted treatment. This is confusing as PIPT is in fact a therapy and therefore not designed to identify and as later described in TARGET trial overview. Also, further in the text it becomes clear that another tool (STARTBACK) is used for the identification. I suggest authors rephrase this section clearly state what is the PIPT goal - arguably point 2 only.

Method section

Lacks important details (study design, total sample size, selection and recruitment of the participants, details on data type and normal distribution testing). It would be also useful to adopt more standard way of reporting of quantitative research.

Beta testing paragraph and Modification of training paragraph (method)

This requires more detail including justification of Beta method being most appropriate to validate the training package? Who and How many PTs/researchers were involved, what was their qualification level, what exactly prompted the changes (e.g. adding videos) - this I would assume would have been added initially, was there a modification of the video resources?

Final course objectives paragraph (method)

Later in the text the authors very well describe the utilisation of the teaching methods to obtain the learning objectives. However, in this paragraph the objectives appear randomly selected with not much attention to the words such as 'understand', 'develop', 'implement' with no apparent appreciation how these relate to educational theory. I would advise to reflect on this feedback and re-write this paragraph in light of pedagogy principles (adding appropriate references). In addition, although further in the text (live workshop) authors indicate the use of formative assessment (real-time feedback, self-reflection), it is not clear whether or how the attainment of the learning objectives was formally assessed. This would significantly strengthen your case of ensuring intervention fidelity. I.e. just because the programme has objectives it doesn't mean they are met on completion of the training. I would therefore suggest address this within this publication as well as the PIPT training programme content.

Final course content paragraph (method)

What is the theoretical rationale of the training programme you are referring to?

PIPT website paragraph

There were 12 modules each taking up to 22 min to complete (4.4hrs). Yet only 2.5 hrs were awarded, was this representative of how much time people spent of the website? Or how was this averaged?

Live workshop
Within the PIPT website it states the 1 day live workshop is highly recommended. Was it monitored how many attended and was there a difference between those who did and did not in measured outcomes?

Strategies to Enhance and Assess Quality and Impact of Provider Training paragraph

Here you state the principles followed but again the form of assessment, whether the trainees receive 'pass' or 'fail', are all trainees to be included regardless of whether they achieve the learning outcomes is not stated. I understand authors attempt to test this with the outcomes but even these appear not a true reflection of PTs learning or change of practice (assessment of physical therapist attitudes, beliefs and confidence; PIPT treatment checklists; and booster training) evaluating confidence and attitudes. Having a formal way of assessing PTs attainment would greatly enhance the quality of this manuscript and improve fidelity of the intervention within the trial (although I do appreciate this may further reduce how PTs engage with the training, which needs to be addressed and acknowledged in the discussion).

Training quality of impact

The total sample size is not stated in the text (only in a table leaving the reader do the math). Table 3 is poorly signposted, not clear what test was used to look at the group differences or what this indicates. The data type for each outcome or its distribution is not stated and so it is not clear whether the correct tests were selected. Also, rename this section as statistical analysis and move it to the end of the method (just before results).

It is not clear why some outcomes were tested immediately post training whilst others were not. I would also recommend to standardize the writing to make it easier to follow when and why each of the outcomes was tested.

Results

There needs to be some attempt to present the descriptive data including, place of work, their qualification level (not just years qualified), how many attended which type of training is entirely missing from this manuscript. All this information would be important to discuss and help interpretation of the results.

Discussion

Unfortunately, the discussion chapter makes little attempt to discuss the results (other than a mention in the provider training section). Instead it is rather descriptive reflection commenting on the unreported qualitative elements of the experience of the process. I am not certain whether this was intentional but given the complexity of the analysis and results presented some interpretation of the results and how this relates to the previous literature is needed.
Table 3 shows that there was disparity in the years qualified. This was not discussed in terms of interpretation of the results. Nor was a potential impact of discussions between practitioners and potential contamination. I appreciate this may not be an issue for TARGET trials opting for cluster RCT but again that is an assumption not mentioned within this manuscript.

Data not presented in the results section are discussed e.g. PIPT clinician champions paragraph (last sentence).

Finally, the scalability section points to some very important insights. This section in particular would benefit from being better linked to the study findings.

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Please indicate how interesting you found the manuscript:

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