Reviewer’s report

Title: Comparing multidisciplinary and brief intervention in employees with different job relations on sick leave due to low back pain: protocol of a randomised controlled trial

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Reviewer: Aage Indahl

Reviewer's report:

The manuscript seems well written and the method sound. The power calculation seems adequate and number of participants sufficient. The questioners employed and the plan for mapping the participants status are well known and the instruments validated and should be sufficient. In this manuscript great detail is payed to the mapping and evaluation processes of the patient status, but the interventions are poorly described. Brief interventions (BI) have increasingly been evaluated and compared to other interventions in RCT’s (Reme 2016, Harris 2017) and the findings have mostly concluded that "no difference found" as the authors of this protocol also found in their earlier study. Some of the interventions compared to BI seem to be rather comprehensive and still the outcome is the same. BI is most often described as a physical examination and "reassuring explanations for back and leg pain and advised to gradually increase physical activity". Usually little information on the "ingredients" of these "reassuring explanations" is given which also holds true for this manuscript. In the wording "gradually" implies a little caution and it would be nice to know what this extra caution is based on as patients usually are limited by their impaired function and uncertainty of the condition in their resuming of activity. Linton (2002) has shown that health care providers may also hold high Fear avoidance believes about LBP and this may un-attentional be communicated to the patients involved. As the causes of non-specific low back pain are not known there is a multitude of different opinions about the causes. Each theory will have its own way of reassurance and it is important to know what model this intervention is based on. The most widely used model has been some form of "mechanical" or "injury" model for pain, but there are also "non-injury" models described. The advice to stay active will certainly differ depending on the employed model and likewise the way "reassuring explanations" is given. Different BI may appear to be comparable in length and in procedures but may differ greatly in this part. As BI has shown to be just as effective in many studies compared to much more comprehensive interventions and in some studies even slightly better, one may be led to think that none of these interventions have any effect? Maybe BI is so short that it is no time for "medicalisation" of the patient during the intervention and that is what holds the effect? In order to answer these questions there is a need to define the "advice" part of the BI intervention better.

In the description of the physiotherapist part the examination is well described and seems to be standard procedures well understood by most readers, but the last part "advice on exercise" may hold a multitude of different solutions. Since there is no clear evidence for effect of any specific exercise for LBP it is of interest to learn what kind of exercises is advised and why. It is also of
interest if any restrictions of activity is given and if any caution on activity either work or leisure is communicated. An advice of being "a little careful" may only have an impact on those that already are careful in their activity and produce detectable differences.

In the "multidisciplinary intervention" also great care is given to the mapping and evaluation process of patients status, but little information is given on the "tailored rehabilitation plan to facilitate RTW". The plan seems to hold the key to RTW and will be discussed in detail by the "entire multidisciplinary team". What is the active ingredients in this plan that are expected to give the results hoped for, is it CBT, counselling or attention and focus? A more detailed description will enhance the value of this study regardless of the final results and help us solve the puzzle of how to care for these patients in the future and refine our interventions in order to enhance effectiveness.

On this background please describe the BI in more detail, both for the background model used and the advices given and the rationality for these advices. Likewise there is a need for more description of the "tailored rehabilitation plan" with focus on the assumed active ingredients and the rationality behind the different parts.

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?
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Yes

Are the conclusions drawn adequately supported by the data shown?
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Yes

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