Reviewer's report

Title: The predictive effect of fear-avoidance beliefs on low back pain among newly educated health care workers with or without previous low back pain. A prospective cohort study

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Reviewer: Jens Ivar Brox

Reviewer's report:

The authors should be complemented in their attempt to study the predictive effect of fear-avoidance beliefs on low back pain among newly educated health care workers.

1. The aim of the study is adequately described and concerns 3 different research questions.

2. The methods used to answer the questions may not be appropriate.
   a. Why was only patients who had experienced musculoskeletal pain the last year included? What is the difference between patients with back pain and other musculoskeletal pain? From the tables it can be read that also 217 (12%) of patients with other musculoskeletal pain had back pain. How many in the target population did not experience musculoskeletal pain?
   b. The response rate was actually 47%, because only 2690 were included. Thus, the studied population may not represent the whole population.
   c. Outcome, predictors, and classification are based on self-report. Is it relevant to consider LBP lasting 1-7 days a medical problem? Is it more relevant to limit the study to evaluate the effect of FABQ in the development of chronicity?
   d. FABQ is validated for use in patients with LBP and not in persons without LBP. Moreover, there is no reference to a validated translated Danish version of the questionnaire.
   e. The groups studied may be merged and duration used as a cofactor.
   f. Baseline scores for FABQ are not given in table 1. Original mean scores with SD and in addition number of patients in the different quartiles would be valuable.
   g. The authors have used logistic regression, but only significance are given. Why not OR?

3. Data are self-report from less than half of the population. The value of self-assessment of physical work load have been discussed, but we do not know how those without musculoskeletal pain assessed their work load. Possible relevant measures like emotional distress, depression and anxiety, have not been assessed.

4. The manuscript is reported according to relevant standards, but may benefit from English editing.
5. The discussion and conclusion are partly balanced, but the only positive finding may be the only relevant finding, because the other questions are not properly assessed.

6. The limitations of the study are not clearly stated.

7. This research questions asked are original.

8. The title is OK. The conclusion in the abstract may be shortened.

9. English writing may be improved.

Major Compulsory Revision: Address the comments above, clearly state the limitations of the study. The study may need statistical evaluation. The low response rate and the validity of the Danish questionnaire in this population may influence results. An interaction between self-reported FABQ and self-reported work load was not found. What did the authors expect? Other factors such as treatment for back pain may have influenced results. Was eventual treatment recorded?

Minor Essential revisions: Paragraph 2 page 2, physical work load better than well-known. The effect of... may be deleted, because this is described in the next sentence. Page 3 ... This behaviour are believed to increase the risk of developing chronic pain is probably better because it has not been shown had it will lead to deterioration of muscles and thereby increased pain..

para 2 .. there seems to be evidence.. be more precise, please.

page 14 - the discussion on sensitization may not be relevant, discuss chronicity, sensitization has not been studied. But it may also be questioned if self-reported back pain > 30 days is chronic pain. The IASP definition is > 3 months and usually include patients seeking professional help.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests: I declare that I have no competing interests.