Reviewer’s report

Title: Evaluating a rehabilitation protocol following lumbar fusion surgery (REFS); a feasibility study

Version: 4 Date: 25 February 2015

Reviewer: Ann-Christin Johansson

Reviewer’s report:

This is an interesting and well described study protocol, concerning a feasibility study planned on patients who have undergone lumbar fusion surgery. There is a general need of more knowledge in the field which gives the planned study a great value.

Questions raised by the journal which relate to the review of a study protocol:

Questions from the journal Reviewers answer

1. Will the study design adequately test the hypothesis?
The hypothesis can be clearer expressed.

2. Are sufficient details provided to allow replication of the work or comparison with related analyses: if not, what is missing?
Some more information is needed in the method section.

3. Is the planned statistical analysis appropriate?
Yes seem appropriate

4. Do the figures appear to be genuine, i.e. without evidence of manipulation?
Yes

5. Is the writing acceptable
Yes

Beyond this I have a few questions/comments to the manuscript listed below:

Background
Aims and objectives
The hypothesis can be clearer expressed

Methods
Design of the trial, page 7 first paragraph
Why say single center?
Participants, page 7. Which post-operative complications will be the ground for exclusion? Please clarify.
Randomisation and blinding, page 10
Why is randomization done before surgical treatment? If the time point for randomization is changed to after surgical treatment dropout rate might be minimized (everything else could be done before surgery as planned).

Immediate post-operative care, page 11, second paragraph
Why are the patients not allowed to walk more than 2 miles per day?

Rehabilitation group content, page 12 last paragraph
The CBT intervention should be more explicit described, what principles of CBT? Any references to this treatment? What education has the physiotherapist for delivering this treatment?

In Figure 2
Point 5 and 10. Thoughts, feelings and behavior, could the authors say anything more about these educational subjects?

Page 13 second paragraph
What educational message?

Why is not the CBT intervention individualized? The educational component (page 15), exercise component (page 15) and peer support component (page 16) are described, why not the CBT component described?

The patients might have different needs in relation to behavioural treatment. Why not tailoring this treatment individually, as is done with the the individualised, progressive exercise regimen?

Some patients might have efficient coping strategies, no misleading thoughts etc. and not even need behavioural treatment, how do the authors consider this?

Could an accessible solution be to measure the influence on behavioural factors before inclusion? And accordingly have a minimum level for giving the CBT treatment?

Usual care arm, page 16
How will the authors control that patients in the control group not get cognitive behavior treatment or cognitive behavior influenced treatment?

Secondary outcome, page 18
Have the authors considered measuring pain catastrophizing?

Qualitative analysis, page 19
In relation to what will patients experience of facilitators and barriers be analyse