Reviewer's report

**Title:** Cognitive, fear-reducing information or individual symptom-based physical training in chronic LBP. A pragmatic, randomized, controlled trial with 1-year follow-up.

**Version:** 1  **Date:** 21 December 2009

**Reviewer:** James Rainville

**Reviewer's report:**

This manuscript reports the results of a RCT of 2 different treatment approaches for chronic low back pain – 1) Cognitive intervention delivered through patients education, or 3) Individualized symptom-based exercises as directed by a physical therapist. The research design was well planned and executed, with successful recruitment and randomization of 207 subjects. Primary outcome measures were pain and disability, and assessment points were appropriately at 2, 6 and 12 months after treatments. The number of subjects lost to follow-up was small. Several secondary outcome measures focused on cognitive and disability, which were areas directly targeted by the cognitive intervention, and no measures targeted any physical parameters such as strength or range of motion that were the focus of the physical training. Additional secondary outcomes focused on subsequent use of medical services, and therefore were equally relevant to both interventions.

The findings of this studies revealed that cognitive intervention resulted in a reduction of disability and a strong trend towards reduction of fear-avoidance beliefs (the target of this intervention), while no changes in these outcomes were noted in the individualized symptom-based physical therapy group. (Figure 4. Connecting lines on bars for images on left and right should be made similar.) Modest and equivalent reduction of pain was noted in both groups. All other outcomes were unaltered by either treatment. Amounts of additional medical care during follow-up were similar.

To support the validity of the study, the authors compare baseline characteristics of responders and non responders to any follow-up questionnaires, and found negligible differences (Table 4), and the results based on subject’s preference for randomized treatment as without effect (Table 5).

The only weakness of this manuscript is the discussion section, in which the authors has chosen to under-stresses the finding of this study. They state that cognitive intervention is at least as good as symptom-based physical training,
where actually it is better as it was the only treatment that resulted in reduced disability. The limited effectiveness of the exercise treatment as used in this study is under-stressed.

The discussion reviews prior studies supporting the chosen physical therapy and exercise approach that have reported promising results, and possible reasons for the limited results noted in this study. All of which are well stated. Comparison with other studies using cognitive interventions is also well done.

(I would like to add my thoughts about the findings from the authors, though my thoughts are neither a criticism of the paper nor ideas that deserve to be addressed in this manuscript. It is possible that the limited effectiveness of their paradigm of “state of the art symptom-based exercise” resulted because the paradigm was based on unsubstantiated theories that are derived from the injury model of low back pain. As such, the evaluation process and subsequent exercise recommendations communicate the importance of pain. This is in direct contract to the message of the lack of importance of pain as communicated in the cognitive treatment. Perhaps it is around this point that we should re-conceptualize exercise as an intervention.)

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.