Reviewer's report

Title: Nordic Walking in the treatment of chronic low back pain patients. A single blind randomized clinical trial.

Version: 1 Date: 24 April 2009

Reviewer: Thorsten Schiffer

Reviewer's report:

1. Is the question posed by the authors well defined?
   This paper examines the effects of Nordic walking (NW) on low back pain (LBP) in three groups "supervised NW" versus "non-supervised Nordic walking" versus "advice to stay active" on pain and pain-related function in patients, who were referred to a specialized out-patient back pain clinic. Except of tendencies there were no significant changes after the intervention on pain or function between the groups. Although NW is a popular and a presumably often used discipline in health programmes, the authors should provide a more profound theoretical derivation for the use of NW. A hypothesis as stated on page 7 is not presented. Why should chronic NW exercise affect lumbar or upper extremity muscles and why should it be better compared to classical aerobic exercises (P4, second paragraph)? This section is unclear and needs to be clarified (Major Compulsory Revisions).

2. Are the methods appropriate and well described?
   The methods are appropriate and well described. Please describe the patients more detailed. Patients with back and/or leg pain cover a wide spectrum of diseases. Please specify the subgroups. Due to the limited changes between the groups, I am not sure if it is a good idea to retain data about compliance and cardiovascular issues for further papers. To my mind these data belong to the presented results. The knowledge about compliance and cardiovascular effects are important to describe the chosen intensity of the exercise. I would rather recommend adding these data to this paper. Please add the groups in table 1 and provide abbreviations for the groups throughout the entire document. Please specify the therapy, which was carried out before the NW intervention.

3. Are the data sound?
   The presented data are sound. However it is still unclear, if there are any significant changes after the intervention. Please clarify; show where differences are significant and add SEM in the text (Major Compulsory Revisions). Figures: Statistical significance should be indicated in all figures so that it is clear where differences occur. Error bars in only one direction would be adequate.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
Yes

5. Are the discussion and conclusions well balanced and adequately supported by the data? 6. Are limitations of the work clearly stated?

Due to poor statistical differences, it is difficult to discuss the data and even more it is difficult to draw clear conclusions. The authors seem to be aware of this problem. Statistical power calculations are provided (Please add the source for the used power calculation). Limitations are included in the discussion section. Maybe a differentiation of the patients in responder and non-responder to the different exercises could help to identify specific responder subgroups. If there are no statistical differences for the time effects (before vs. after) please shorten the discussion. A discussion based on speculations and tendencies would not be accurate for the publication in BMC (Major Compulsory Revisions).

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

Yes

8. Do the title and abstract accurately convey what has been found?

The advised modifications should be included in the abstract. Clarify the methods and results. Eliminate speculations, if there are no statistical significant differences.

9. Is the writing acceptable?

The writing is acceptable. Please revisit the document and correct the numerous minor mistakes. For example:

P4 show(ed)
P4 dependant
P6 use present perfect in the listing of the included participants
P9 pair-vise
P9 MCID – explain acronym
P10 text: 126 patients vs. table 1 136 patients
P11 PSFS – explain acronym
P14 unheard of in?

Figure 1 Questionnaires
Figure 1 what is the meaning of the arrows on the fourth level
References parkinson in 3 and 4; Noeric walking in 5

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

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