Reviewer's report

**Title:** Depression as a 2-year outcome predictor of lumbar spinal stenosis surgery: a prospective study of preoperative, 3-month, 6-month and 12-month follow-up phases

**Version:** 1  **Date:** 20 January 2010

**Reviewer:** Pradeep Suri

**Reviewer's report:**

This study examines the important area of nonsurgical factors which may affect the outcomes of treatment for LSS. This topic should be of interest to our readership.

The design of this study is focused and straightforward, and the manuscript is quite well written.

**Major Compulsory Revisions**

However, it must be noted that there are now multiple publications examining the influence of depression on surgical outcomes, including many contributions by these authors. Given that the authors have previously shown depression to be associated with poor early outcomes of LSS surgery, and that depression in the preop and early recovery phase is associated with poor surgery outcomes at one year, it is unclear what these further analyses of this cohort add to our current knowledge. In paragraph one it is stated that ‘it is not known whether depression plays a different role as an outcome predictor in different phases of the recovery process.’, however, it could be said that the prior publications suggest rather strongly that depression is associated with poor outcomes at any stage in the process. The rationale for this study must be explained in a manner that is more convincing in the introduction section; if this cannot be better presented, the study rationale would appear weak.

**Minor Essential Revisions**

Title- The title of the manuscript is unclear. The current version at once seems to state that the outcome is something at 2-years, and then mentions preop, 3 month, 6 month, and 12 month timepoints without mentioning 24 months. Please reconsider the wording of this.

Abstract-

Results- The words ‘being depressed’ in the phrase ‘Being depressed was a strong predictor of the 2-year surgery outcome.’ is unclear and does not make clear at what time points ‘being depressed’ was a predictor. Please clarify

Conclusion- A period must be added after the word ‘outcome’ in line 2 of the
conclusions section of the abstract

Manuscript-
p. 6, line 5- How was self-reported walking capacity reported and recorded? Please clarify or reference

p. 6 line 9- Please explain why only ‘The latter VAS measurements were included in this study’ and which measurements are being referred to.

p. 6- lines 16-25. The description of the Finnish version of the Stucki scale can be improved. In the current version, it is difficult to ascertain what is being described is three parts of the same scale. The description of each scale or subscale should begin in the same way, i.e. ‘The symptom severity scale was _____, the physical disability scale was _____, etc’. this minor reformatting will make this easier for the reader.

p. 7 line 1 should read ‘The scale concerned with post-operative satisfaction only was included in the follow-up questionnaires’

Furthermore, why was the whole scale not included? The rationale can be stated, if relevant

Statistical analyses-
p. 7, line 16
This line would be more clear if restated as: ‘Regression analyses were performed using the data for the final 96 subjects <WHO REMAINED AT> or <WHO COMPLETED> two-year follow-up.’

p. 7, line 15- what is the significance of the words '(method: enter)'?

p. 7. How was the determination made to use these predictor variables? Although is clear for some of these variables such as age and gender, it is unclear for others. For example, why were Stucki subscales of symptom/disability included but the subscale of satisfaction was excluded? A few words on the selection of covariates for the model building would be helpful

p. 8, final paragraph- The wording of this paragraph is unclear and be stated better One possibility would be as follows: ‘The surgical outcome was defined AS A DICHOTOMOUS OUTCOME by using THE median VALUE FOR the 2-year Oswestry (median: 24) and VAS-scores (median: 0). A “poor” outcome refers to the subject HAVING A SCORE AT OR ABOVE THE MEDIAN VALUE FOR these measures.’

Results
Table 2.
It is unclear why for Model 1 all the ORs for all variables are presented, but this is not done for the other models. Given the fact that one of the major reasons for
this study is to establish the relationship of post-operative factors to eventual 2-year outcome, there may be some utility to presenting all the data- including the nonsignificant data- in Table 2.

The statement of Gender and Marital status under the column ‘Factor list’ is unclear. The ‘factor list’ names of ‘Gender (male)’ and ‘Marital status (single)’ will more easily allow the reader to understand which value the OR pertains to.

Why are p-values only presented for Depressed in Model 1 and not for the other factors? This does not seem needed given that the ORs are presented, and if needed perhaps this can be superscripted.

Discussion

P 10 Line 9- ‘According to logistic regression analysis, belonging to the depression group was the only preoperative variable that significantly associated with a poorer 2-year outcome.’ This statement appears not to be correct as per the data presented in Table 2, where it appears that baseline age was significantly associated with poor ODI at 2 years.

P11, first sentence- Please clarify this line. Are the authors saying that the observed improvement could simply reflect natural history? If so, they should say this plainly.

Discretionary Revisions

Manuscript-

p3, lines 4-5- The wording of this phrase while acceptable could be improved, one possible suggestion would be ‘The effectiveness of surgery for LSS has been found reasonably good with severe cases of LSS, but success rates vary considerably’

P9 Line 1 The word ‘altogether’ may be unnecessary to start this sentence.

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