Author's response to reviews

Title: Outcome and clinical changes in patients 3, 6, 12 months after a severe and major hand injury - can sense of coherence be an indicator for rehabilitation focus?

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Version: 3 Date: 25 November 2010

Author's response to reviews:

Manuscript “Outcome and clinical changes in patients 3, 6, 12 months after a severe and major hand injury - Can sense of coherence be an indicator for rehabilitation focus?”

Ragnhild Cederlund, Eva Ramel, Hans-Eric Rosberg, and Lars B. Dahlin
(Manuscript number 8873868013960895).

Version 2: 25 November 2010

Dear Editor,

Thank you very much for the additional comments from the reviewers regarding our revised manuscript. Enclosed you will find our re-revised manuscript and our reply as follows:

Reviewer Eva Langeland

Minor essential revisions

1. Page 1: A few sentences have been added in the discussion referring to the previously mentioned references (ref 19-21).
2. The sentence about ethical approval is deleted.
3. We have tried to improve the sections and wordings about SOC in the text and also added some in the Introduction. The text on page 13 in Study limitations has been changed. In conclusion we have also tried to be more specific and also deleting two sentences in our previous version.

Reviewer Felix Angst

Major compulsory revisions

15. Conclusion matches aims.

In the previous review the other reviewer suggested that we should perform a
multiple regression analysis to consider SOC as a predictor for change.

Page 10

...An additional multiple regression analyses (results not shown) showed that SOC was the main factor explaining the outcome at 6 and 12 months, although age also influenced health (Euroquol), sleep disturbances (VAS) and physical functioning (SF-36).

We consider that we have made an attempt to control for confounders and expressed them in the text, see above. We have also changed the word predictor in the method and results but kept the analyses as suggested by the other reviewer. However, we have not drawn any conclusions or major discussion points from those analyses. The words predictor and prediction are not used in the rest of the manuscript any longer. We focus on differences between groups.

16. No pre-injury SOC data.

Sentences have been added in Methods from the reply to the other reviewer. In addition, we have made further comments in limitation of study, page 13.

Page 7.

A pre-injury measure of SOC was not relevant in the present study as the patients were referred acutely. Therefore, we chose to assess SOC at six months due to no restrictions in using their hands and that half of the patients were back at work.

17. Changes have been made in Study limitations to clarify the low sample size further.

Page 13.

...The study sample was small, although we included patients for two years. Also the severity and the rather unique character of each individual's injury make it difficult to generalize to other groups of patients, and some of the results especially around SOC need to be studied further.

18. 54 statistical tests in 45 patients.

Text is added in five places:

Page 7-8. Data analysis.

Eighteen measured areas of interest were analysed at three different occasions; 3, 6 and 12 months after the injury and 54 statistical tests were performed. The significance level was set at \( p=0.05 \). Considering a risk of mass significance the results at a stricter significance level of \( p=0.01 \) is pointed out.

Page 9: Results: SOC subgroup

When the significant level was set at \( p = 0.01 \), 12 of the 18 measured areas of interest (23/54 variables) were still significant at 3, 6, 12 months follow-up when compared to high/low SOC (Tables 4, 5).

Page 9. Results: Peripheral nerve subgroup

When the significant level was set at \( p = 0.01 \), one of the 18 measured areas of
interest (1/54 variables) was still significant when compared to peripheral nerve injury/no nerve injury.

Page 10. Results: severity of hand injury
When the significant level was set at $p = 0.01$ two of the 18 measured areas of interest (3/54 variables) were still significant when compared to severe/major hand injury.

Study Limitations page 13
We chose a significance level of p-value 0.05 but if a stricter significance level p-value 0.01 is chosen there were still significant differences between high/low SOC subgroups in outcome

19. Dichotomizing the sample by the mean SOC score
See point 15.

20. We agree that there is an inter-individual difference in interventions which is natural due to the nature of the hand injuries. We have in the revised version written about this and also included a sentence in Study limitations.

Page 13
In addition, one has to consider that these patients, all with severe or major injuries according to HISS, received individualized treatment of their specific injuries, which may also influence the outcome.

Minor essential revisions
21. Abstracts, the word descriptive is included in Methods of Abstract.

22. Consistent reporting of decimal places of data:
Comments: We have made an attempt to change the tables 2-5 with digits and decimal digits, and hope we have understood the instructions correctly. The instructions were not absolutely clear.

23. OK.
24. Description of HISS
Page 5
Hand Injury Severity Score (HISS)
The Classification by Cambell and Kay (HISS) was used to classify the severity of the injuries. HISS is an objective anatomical assessment specifically designed for hand injuries. The hand injuries can be divided into four broad categories, such as “Minor” (least injury), “Moderate”, “Severe”, “Major” (worst injury). HISS is based on which tissues and which fingers that are affected by the injury [22, 23].

25. Scaling/transforming all instruments’ scores into 0=worst health to 100=best health. Comments: We have used the description of the scores according to the manual of the different assessment instruments. We think it may be confusing to
use the same description 0=worst and 100=best for all instruments if this is not used in the literature.

26. VAS grip strength

Comments: This study design used postal questionnaires at 3-6-12 months. We wanted to cover as many areas of interest as possible following the WHO’s International Classification of Functioning, Disability and Health covering body function, activity/participation, personal and environmental factors.

Page 4

The questionnaire covered several areas of interest such as subjective pain, joint flexibility, sensibility, grip strength, dexterity, sleep disturbance, cold sensitivity, satisfaction in daily occupations, health status, disability, and physical and mental quality of life.

27. OK


We would like to compromise in this matter as Z-scores are used in multiple studies to evaluate the deviation from a control population. We do not want to unnecessarily lengthen the manuscript by discussion of z-scores in Discussion since it is scientifically a well accepted method. We hope this compromise is accepted as we have added the Wilcoxon’s test as suggested earlier.

29. OK

We hope that these changes are sufficient and that you now can consider our manuscript suitable for publication in Journal.

Yours Sincerely

Ragnhild Cederlund