Author’s response to reviews

Title: Evidence for a general stiffening motor control pattern in neck pain: A cross sectional study.

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The Editorial Team

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Research article
Evidence for a general stiffening motor control pattern in neck pain: A cross sectional study.

Thank you for the comments on our manuscript for publication in your journal.

We have reviewed the manuscript according to your email (23.12.2014) point by point.

Dear Mr Meisingset,

Your manuscript has now been assessed by the Associate Editor and her comments are as follows:

"Thank you for addressing the reviewers’ comments and submitting a revised version of your manuscript. I find that almost all raised issues have been dealt with adequately. However, I believe there is a need to more expansively discuss the potential problems with the very sparse description of study participants.

It is absolutely central to case-control designs that cases and controls only differ on the parameter of interest. Therefore, I consider it a major limitation that there is so sparse information about the study sample. Part of this is the lack of a systematic registration of neck pain in the control group, which may seem irrelevant if people volunteered as healthy, but nevertheless is important since neck complaints are extremely frequent also in non-clinical populations. Also, it is a pity that the psychological scores were not available for controls and that there is no information on factors that may confound the association such as education, work-load, or physical fitness. I find that this potential source of bias should be mentioned as an important limitation and that is needs to be recognized in the conclusion that it cannot be ruled out that the estimated group differences were confounded by unmeasured characteristics.

• We have now included information on previous neck pain history for the healthy control (HC) group that was not included in the former version of the manuscript. We have revised the manuscript and included a discussion of the neck pain history in the healthy control group, page 21, line 445-451. No neck pain the last 3 months was required to be included as "healthy control". However, 17 of 91 subjects in the HC group reported a previous neck pain episode, with a median time since last episode of 40 months (range 5-120 months). Exclusion of the 17 subjects with a previous neck pain history did not change the group results and the conclusion of the study, and we do not believe this is a serious limitation of the study.

• We agree that potentially confounders like education and work load may be important in non-randomized studies. However, we did not collect these data. We have revised the document to include this limitation, page 21, line 451-452.

Another aspect that I think ought to be stated clearer is that the results apply to patients with moderate to severe, long-duration NP. I suggest the objective, discussion and conclusion describe the patients dealt with as patients with moderate to severe NP. Although patient with recent onset of NP were not excluded, the study cohort consisted in fact of patients with long-duration NP and I think it should be clear that the findings apply to this group.

• We have included the description of NP group as patients with moderate to severe neck pain with long duration in the objective (page 5 line 81), discussion (page 15, line 312-313) and conclusion (page 21, line 457-458).
Minor issues:
The subheading "Associations between clinical features and constructs of motor control" should be in bold When mentioning the statistical significant correlations I think it is relevant to describe those as weak (or modest)."
  • *The subheading are now in bold. We have also described the associations as weak, page 15, line 305*