Author's response to reviews

Title: Does a dose-response relation exist between spinal pain and temporomandibular disorders?

Authors:

Birgitta Wiesinger (birgitta@wiesinger.se)
Hans Malker (hans.malker@lvn.se)
Erling Englund (erling.englund@lvn.se)
Anders Wänman (anders.wanman@odont.umu.se)

Version: 2 Date: 14 January 2009

Author's response to reviews: see over
Dear Editor,

RE: Does a dose-response relation exist between spinal pain and temporomandibular disorders?
MS: 1285824744204448

Thank you for considering our manuscript for publication. We are grateful for the comments and suggestions from the reviewers, and would like to answer and address the requests as follows:

Reviewer 1 (Gunnar E Carlsson)
1. As recommended, we have changed “TemporoMandibular Disorders” into “temporomandibular disorders”.
2. Does the reviewer mean page 2? As recommended, we have changed “dose-response like” into “dose-response-like”.
3. As recommended, we have changed “show” into “showed”.
4. We did not use a pre-existing instrument for assessment of ADL. Each subject was asked to estimate the impact of jaw symptoms, headaches, neck-shoulder pain and low back pain on activities of daily living. We have tried to clarify this in the text. We have added a reference for NRS.
5. We have changed the text in the methods section / study population (page 4).
6. As recommended, we have removed the values from the first paragraph.

Reviewer 2 (Eduardo Bernabe)
My major comments on this report relate to the statistical approaches selected to analyse data… The authors are advised to seek for statistical supervision in order to get the full information from their otherwise methodologically well-performed study…

Hans Malker (2nd author) is a statistician and Professor of Epidemiology and Public Health, and Erling Englund (3rd author) has a PhD in Statistics. We acknowledge that the choice of statistical tools is a complex decision. In this specific work we tried to keep the analyses straightforward and comprehensible.

The first aspect relates to the prevalence of TMD/SP reported for each of the 4 groups of participants (for example, from 13% for SP-0 to 48% for SP-3 group). It seems that authors are reporting unadjusted prevalence figures, even though they reported OR’s controlling for some covariates (sex and age). OR’s are measures of association, which is not the aim of this study. Since this study compares the prevalence of TMD/PS across groups, I would suggest using Prevalence Ratios (PR) rather than Odds Ratios (OR) in order to get properly adjusted prevalence figures and their corresponding confidence intervals.

As shown in tables 1 and 2 the discrepancy in age and sex is fairly low between the different groups. Thus, adjusting for age and sex is not necessary in the present study when reporting prevalence. Prevalence ratios (PR) and Odds ratios (OR) are both approximations of a probability measure, and there is still a debate about which measure to use in prevalence studies (Pearce N. Effect measures in prevalence studies. Environ Health Perspect 2004;112:1047-1050). We have used binary logistic regression analysis, controlling for age and sex. We do not think it would be more appropriate to use PR in this study.
And the second and most important aspect is the lack of a formal test for the dose-response relationship...

We agree with the reviewer that a formal test for the dose-response relationship should be included. After careful consideration we decided to use the Cochran-Armitage Test for Trend (Agresti A: Categorical data analysis, 2. edn. Hoboken, New Jersey: Wiley-Interscience; 2002) with syntax for SPSS (Garcia-Granero, M: http://www.listserv.uga.edu/cgi-bin/wa?A2=ind0605&L=spssx-l&P=R24952&D=0). Information on these analyses is included in the sections on statistics, results and discussion.

Authors may consider discussing why the 13% of participants in SP-0 group and 30% in TMD-0 group reported symptoms. Are these values indicating that no condition could occur without the other? Or perhaps, any other trend?
We do not quite understand the question. This is not an incidence study; we measured the symptoms at a certain time point. It cannot be expected that any condition always occur with or without the other. Hence, we are not surprised that symptoms of TMD exist without presence of spinal pain, nor that spinal pain exists without symptoms of TMD. The interesting trend, as we regard the results, is that these symptoms seem to mutually potentiate each other or are under the influence of the same contributing factors. Our opinion in this matter is presented in the discussion and conclusion sections.

Reviewer 3 (Martti Helkimo)
As recommended, we have changed “were” into “was” (abstract line 6), although our language editor recommended “were” in this sentence.

On behalf of all authors;

Sincerely yours,

Birgitta Wiesinger, DDS
Department of Research and Development
Sundsvall Hospital
85186 Sundsvall,
Sweden