Author's response to reviews

Title: Physical inactivity is associated with chronic musculoskeletal complaints 11 years later: Results from the Nord-Trondelag Health Study

Authors:

  Helene S Holth (helenesu@stud.ntnu.no)
  Hanne KB Werpen (werpen@stud.ntnu.no)
  John-Anker Zwart (j.a.zwart@medisin.uio.no)
  Knut Hagen (knut.hagen@ntnu.no)

Version: 2 Date: 12 September 2008

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

Re: “Physical activity as a predictor for chronic musculoskeletal complaints 11 years later. Results from the Nord-Trøndelag Health Study”

Thank you for your positive response of our paper. We have carefully considered the comments from the reviewers, and changed the manuscript accordingly. The changes in our manuscript are highlighted using bold text.

Reviewer 1 (Karin I Proper):

1. Reviewer 1 made comments regarding the study design, terminology, the title of the study, and mentioned that the method section was not clear regarding the use of data.

**Study design:** We are aware of the limitation with our study design. This is emphasised in the discussion, informing that no questions concerning MSCs were included in HUNT 1, and that no “population-at-risk” was available at baseline (page 12). Because of this limitation, we have consistently avoided using words like “risk factor” and “risk of.”

**Method section:** The method section is rewritten and expanded, which in more detail explain which data we have used measured at HUNT 1 and HUNT 2. As a consequence of the comments from reviewers 2 and 3, we have included data regarding physical exercise in HUNT 2.

**Title:** As recommended by reviewer 1, we have deleted the word “predictor” from the title which is changed to:

“Physical inactivity is associated with chronic musculoskeletal complaints 11 years later: results from the Nord-Trøndelag Health Study.”

**Terminology:** As recommended, we have also consistently used the word “association” throughout the text, whereas words like “relation” and “predictor” are avoided.
2. As recommended, more references from studies worldwide are included in the revised manuscript, increasing the total number of references from 26 to 36.

3. Abstract: More information about the study population is included in the methods, giving the responder figure among total number of individuals who participated in HUNT 1 and HUNT 2. Regarding analyses, adjusted factors used in the final analyses are listed.

4. The participants were asked about leisure-time physical exercise, and to clarify this, we have used the word “exercise” throughout the manuscript.

5. The initial part of the section about musculoskeletal complaints on page 7 is rewritten, informing that the questions about musculoskeletal symptoms were adopted from the Standardized Nordic Questionnaire, which previously has been evaluated and found to give reliable estimates for low back and upper limb and neck discomfort, in particular for symptoms during the past year.

6. As recommended, only adjusted data are described in the results, and unadjusted analyses are deleted.

7. The strengths of this study is listed on page 12, emphasising the high participation rates, ample information on several important confounders, the follow-up design, as well as the use of validated questions regarding MSCs and physical activity.

Reviewer 2 (Jan Hartviksen):

1. Abstract: As recommended, we have added information that shows the final analyses were adjusted for age, gender, body mass index, smoking, and education level. We also altered the conclusion of our abstract.

2. As recommended, the background section is extended, elaborating more on the fact that physical inactivity and chronic MSCs share several important negative determinants of health.

3. As recommended, we have included data regarding physical exercise in HUNT 2.

4. As recommended, we have added more details regarding how potential confounders were evaluated in the statistics on page 9, first paragraph.

5. We have included the corresponding p value and Wald test value to all our results given on pages 10 and 11. It was not possible to add the Wald test values in Tables 3 and 4 due to the fact that the Tables have to be in portrait format.

6. In the results section, we have clarified that individuals with chronic MSCs were subdivided into either chronic widespread MSCs or chronic non-widespread MSCs (page 9). This information is also added in the legends of Tables 2-4.
7. On page 10, we have clarified that similar tendency was found for both genders, and one example of OR are given for men and women.
8. In the discussion, new comments regarding the influence of changed or maintained activity level in HUNT 1 and HUNT 2 are added on page 12.
9. As recommended, the accessed data are added in reference 2.

Reviewer 3 (Susan Picavet):
1. Reviewer 3 made comments regarding the study design, terminology, and the title of the study. Regarding study design, please see item 1, review 1. Regarding the comment on data on physical exercise in HUNT 2, please see item 3, reviewer 2. The title of the study is changed (please see item 1, reviewer 1).
2. The background section is rewritten (please see item 2, reviewer 2), including some reasons why previous studies have showed inconsistent results regarding the influence of physical exercise on MSCs.
3. The three different classifications used in the present study are presented in more details in the text on page 5 and 6. Table 1 is changed and made more simple, showing the indicate scores for each response of questions 1 and 3 used when calculating the summary score.
4. Chronic widespread MSCs and physical inactivity are both associated with increased risk of cancer and higher mortality (as mentioned in the background section on page 3 and added in the discussion on page 12). This explain why we focused on chronic widespread MSCs in the present manuscript. Reviewer 3 had a relevant question regarding the association between physical exercise and different anatomical sites. This relationship will be evaluated in more detail by another HUNT research group in the future.
5. Abstract: As recommended, the prevalence figures of chronic MSCs are given in the results.
6. Validation of MSCs: Please see item 5, reviewer 1.
7. Potential confounders: The complete list of potential confounders is given in the statistics on page 9.
8. Exercise or physical activity: Please see item 4, reviewer 1.
9. Table 1: Please see item 3, reviewer 3.

On behalf of all authors;
Sincerely yours,
Knut Hagen, MD, PhD
Norwegian National Headache Centre