Author's response to reviews

Title: Neck/shoulder pain in adolescents is not related to the level or nature of self-reported physical activity or type of sedentary activity in an Australian pregnancy cohort

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Version: 2 Date: 9 June 2009

Author's response to reviews: see over
Dr Melissa Norton MD  
The Editor in Chief  
*BMC Musculoskeletal Disorders*  
**Re: submission MS 2123171509263076**  
“Neck/shoulder pain in adolescents is not related to the level or nature of physical activity or the type of sedentary activity in an Australian pregnancy cohort”

Dear Dr Norton

Thank you for arranging peer-review of the above manuscript. We have considered the insightful comments prepared by the two expert reviewers and have addressed the issues raised in a point by point format below. Revisions to the manuscript are marked with ‘track changes’. A clean version of the manuscript without ‘track changes’ has also been uploaded.

I hope these revisions are to your satisfaction and enable publication of this paper in *BMC Musculoskeletal Disorders*.

Sincerely

Andrew Briggs
Reviewer 1: Leoné Smith

Minor Essential Revisions

1. Table 1 of the Results section on page 26-27 contains too much information and needs clearer demarcation of information.

   *Table 1 has been revised. We have split the table into 2 separate tables. The physical and NSP prevalence data now appear in a different table to the physical activity data. The format of the table has also been modified to make demarcation of physical activity characteristics more clear.*

2. In the first sentence of the second paragraph of the Results on page 10 a word may be missing as the meaning of the sentence is unclear.

   *This sentence has been revised to improve clarity.*

3. In the fifth sentence on page 18 of the Discussion, a word is missing as well.

   *This sentence has been revised to improve clarity.*

4. The Conclusions of the article is very short and abrupt. Could the authors expand slightly more in this section?

   *The conclusion has been elaborated, also taking into account point 1 from Reviewer 2.*

Discretionary Revisions

1. The title of the article is somewhat misleading in referring to the study population as "Australian pregnancy cohort".

   *We feel the term “Australian pregnancy cohort” is accurate. Data were originally collected from this cohort of, now adolescents, in utero. The title is also consistent with other studies which have been reported in the RAINE cohort.*

2. In the Data Analysis section on page 9, the authors refer to reference groups when comparing the adolescents' activity level and sedentary activities. The two reference groups differ as the one for activity level is the moderate exposure group and for the sedentary activities, the reference group was the participants with the least amount of time in each sedentary activity. The difference in choice of reference group is not clear. Could the authors clarify this in the text?

   *A commentary has been added to the Data Analysis section to better explain the selection of reference groups for the logistic regression models.*

Reviewer 2: Alice Kongsted

1. The authors conclude that physical and sedentary activity is not related to NSP. Taking the above mentioned limitations into account, this is a more firm
conclusion than supported by the study. This trial shows that self-reported activity registered during one week was not associated with retrospectively reported NSP during lifetime or during the month preceding participation in the study. I suggest that the conclusion is modified both in the abstract and in the text so that it is truly supported by the study (Revision 1 – major compulsory revision).

*The reviewer raises an important point. The abstract and conclusion have been modified to more accurately represent the variables examined in this study.*

2. The potential problems with the cross-sectional design in relation to the risk of activity-levels being a result of NSP should be considered in the discussion (Revision 2 – major compulsory revision).

*A commentary has been added to the limitations section of the Discussion to address this issue.*

3. I suggest that the word “self-reported” is entered in the title before “physical activity” (Revision 3 – minor essential revision).

*The title has been modified.*

4. Page 6, line 5: I suggest that the percentage of the 14-years cohort is added, that is “924 adolescents (38 % of the 14-years cohort) participated..” (Revision 4 - discretionary).

*This percentage has been added.*

5. I would like to know when the MARCA-reporting was made in relation to the questionnaire about NSP (revision 5 - minor essential revision).

*Adolescents were given the diary to start completion immediately after they had completed the NSP questionnaire. The activities for that day were not used in analysis as it included several hours of assessments for related studies. This has been clarified in the Methods.*

6. How were the METs were calculated/was the METs based on some standardized values or..? (page 7 – revision 6 - minor essential revision).

*METS were calculated based on assigning standardized values to each of the MARCA activities using a compendium of energy expenditures for youth [1] based on the adult compendium [2]. This information has been added to the text.*

7. The paragraph p. 6 “A comparison of the cohort with the Western …. To the Finnish birth cohort” does not make sense to me. Was this a distinctive cohort because it was included from a specialist hospital or was generalisable to the background population? (Revision 7 - minor essential revision)

*This paragraph has been re-written to improve clarity.*
References
