Reviewer’s report

Title: Prevalence and incidence of musculoskeletal extremity complaints in children and adolescents. A systematic review

Version: 0 Date: 05 Jun 2017

Reviewer: Helen French

Reviewer's report:

Description of musculoskeletal complaints in children and adolescents - a systematic review

Thank you to the authors for submitting this paper which appears to be a challenging topic due to the heterogeneity of the studies obtained.

Title: The title does not really explain what the review is about - suggest revision

Abstract: In the background section, you refer to the 'occurrence'. I am unclear what this means. Do you mean prevalence?

In the results section of the, can you give the age profile of the youngest age group and oldest age group.

Background;

I would suggest you outline here what you mean by 'musculoskeletal complaints' in this section

Pg 2, line 31 change 'risk factor of' to 'risk factor for'

Pg 2 line 35 am unclear what you mean by 'minor distortion'. Suggest rewording for clarity.

Methods

Was the review protocol registered in the PROSPERO database?

Was the review conducted according to PRISMA guidelines? Suggest submitting a completed copy of the PRISMA checklist

Pg 3, line 54. Only 2 databases were searched, which is a limitation of this review. Was any grey literature searched?

Pg 3, line 70. You refer to excluding athletes from this review- how did you define 'athletes'
Pg 3, line 79. I suggest you move the section on case terminology further up into the methods section- before the search strategy so that it is at the beginning of the methods section.

Pg 4, line 86. You refer to studies of prevalence or incidence here- is this a study of prevalence/incidence but it is not clear until now that is what this review is studying. There are assessment checklists for prevalence studies.


This contains extra items in addition to the ones you included to assess study quality including: response rate. Valid methods for measuring the condition.

Pg4, line 104: In relation to the response options, there appears to be no 'unclear' option.

Pg 4, line 105: 'full-filled' should read 'fulfilled'

Pg 5, lines 109-115. Whilst the authors have attempted to assess methodological quality and devise a scoring system, this is not validated and should be noted in the discussion section as a limitation of the review.

Pg 5, lines 118 and 133 'Data was' should read as 'data were'

Pg 6, line135. I wonder about the rationale of considering the longitudinal studies as two cross-sectional studies. Why do some of the prospective studies report only report one set of data (e.g. Mikkelson, Shier, Verhagen).

Results

Table 1: please add the citation number for each study in this table.

Table 2 which provides the study characteristics is an important table due to the heterogeneity of the included studies and should be included in the main paper, rather than as a supplementary file.

Pg 8, line 171. This section could provide more detail e.g. countries where studies took place, populations studies, methods of determining the prevalence of MSK complaints.

Pg 8, line 188. Can you clarify the age groups of the 'younger children' and 'older children' in this line. Are you including the adolescents here?

Why are tables 2a and 2b labelled as such? Why not call them tables 3 and 4 and label the others accordingly.
Overall, I find the results tables confusing to navigate. What are the units of measure for incidence and prevalence.

Without knowing the actual complaints in each region, it is hard to see the value of these results.

Discussion

The authors attempt to explore reasons for presence of MSK complaints in different body regions, which is quite difficult without knowing the actual pathologies involved. There are potentially lots of factors which would contribute to pain in these populations. For example, on pg 11, line 260, the authors report posture as potential causes of neck /shoulder pain which of course is possible. But what about heavy schoolbags?

In relation to the clinical population studies, the sources of this data are important to note as they are all from general practice, where one would assume less severe complaints present. As the authors point out, more severe injuries would present in an Emergency department setting. The authors should make this more explicit.

Pg 12, lines 285-290 would sit better if it were placed straight after the discussion on upper limb results.

Pg 13, line 292 this should have been reported in the results section (in relation, to location of studies)

Pg 13, line 300: again this information should have been presented more explicitly in the results section and also in the methods section (that you would include studies which measured different types of prevalence)

Pg 13, line 305- in relation to the questionnaire used in the original studies, were they validated questionnaires or originally designed by the original authors. Again, this is important information not provided before now.

The authors do not outline the limitations of their review which I have outlined above. The lack of clarity around exclusion of 'athletes' is also a major limitation as it is unclear what their definition of athlete is.

Conclusion:

Pg 14, line 335. I don't think the fact that a meta-analysis was not possible should not be mentioned first in the conclusion. The conclusion about traumatic vs non-traumatic may be
misrepresented as traumatic complaints may present in emergency departments rather than
general practice.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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Please indicate the quality of language in the manuscript:

Acceptable

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