Reviewer's report

Title: Computer work and musculoskeletal disorders of the neck and upper extremity: A systematic review

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Reviewer: Jane Frølund Thomsen

Reviewer's report:

General comments
This systematic review focuses on the possible causal relationship between computer work and neck and upper extremity musculoskeletal disorders. This topic is still of considerable importance since computer work is widespread and a relationship is still not established nor rejected.

A main general comment to this review is that the paper is lengthy and also with extensive tables. There is some information in the text which is also in the tables or appears more than once in the text, e.g. both in the Results and in the Discussion. Only data relevant for this review should be mentioned. It should be considered if Tables 2 and 3 could be reduced and merged. This would make the reading of the paper easier.

Major compulsory revisions

1. Literature search: The review focuses on diagnosed musculoskeletal disorders. Should more specific search terms (such as epicondylitis, tendonitis, tension neck syndrome etc.) have been used as well?

2. Quality assessment: The studies were divided into low, moderate, high or very high. What were the criteria for this? A scoring system was used but other factors were considered as well – what factors and why were they not part of the scoring system? In the description of each study it seems that in fact the score of the study is the most important factor and not other considerations. This could be clearer.

3. Results: How many studies were identified in all by the search? How many titles/abstracts read? How many were included from the search and from the files?

4. Several of the reviewed studies do not seem to add any evidence to the associations between computer work and disorders because this was not the focus of the study, e.g. Aarås ((25) participants highly selected on pain status), Arvidsson ((27) a focus on gender differences), Brisson ((32) the study reports the effect of an ergonomic training programme and not the effects of changes in the computer work place (?)).

Generally, one would consider randomized clinical trials or clinical interventions as indicative of a causal relationship and therefore as very strong study designs.
for this purpose. But several of the studies seem to study the effect of training and not change of exposure, e.g. Dainoff, Brisson, Konarska. Should these studies be included in this review of possible causal associations?

Should these considerations be reflected in the inclusion criteria (e.g. the study included analyses of associations of computer work and disorders)?

5. Discussion: Strengths and limitations of the review itself should be mentioned. Considerations about the search, the scoring system, the inclusion-exclusion criteria. Were important papers possibly left out? Signs of publication bias?

Was important information possibly left out because of the inclusion criteria concerning physical examination, e.g. well-conducted prospective studies without physical examination?

The Discussion includes good conclusions regarding evidence of relationship to the different sections.

Minor essential revisions
1. In the introduction it is mentioned that several recent reviews exists. Why another review then?

2. Inclusion criteria: What was the reason why the review was limited to studies with a relevant objective examination?

3. Table 1: “Acceptable quality” this term is used several times – how was it defined?

Outcome measurement: Item for blinding with respect to exposure status is missing.

A RCT design would be a very strong design but the score system does not “award” this.

4. Table 3. The information given in the columns is not systematically the same for all the studies, e.g. confounders included is not mentioned for all studies. For most of the studies risk ratios (OR, RR, HR or other) are shown but not for all (e.g. Dainoff).

There are several intervention studies. An important point is the contents of the intervention and this should be emphasized. Maybe the table would be clearer if the intervention studies were reported in a separate table.

Discretionary revisions
1. Table 3. The column Reference includes study design. This should be moved to the next column or the heading should be changed.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a
statistician.

Declaration of competing interests:
I declare I have no competing interests