Reviewer's report

Title: Perceived exertion, comfort and working technique in professional computer users and associations with the incidence of neck and upper extremity symptoms

Version: 1 Date: 27 September 2011

Reviewer: Erwin M. Speklé

Reviewer's report:

The paper “Perceived exertion, comfort and working technique in professional computer users and associations with the incidence of neck and upper extremity symptoms” investigates whether: 1) perceived exertion and comfort are associated with the incidence of neck and upper extremity symptoms, and, 2) observed working technique is associated with the incidence of neck and upper extremity symptoms.

At baseline a self-administered questionnaire was used to assess work-related exposures, individual factors, and symptoms of disorders of the neck and upper extremities. In addition, observations of working technique were collected by ergonomists. Incidence data neck and upper extremity symptoms were collected by means of 10 monthly questionnaires.

The study is of importance in its field and the research question is very relevant. However, I believe that the study could be improved, mainly by providing more information on the precise method, as explained in the comments below.

Major Compulsory Revisions

The background section provides information on the current state of scientific evidence regarding the hypothesized relationship between potential risk factor and work related neck and upper extremity symptoms. It also provides some specific information on hypothesized relationship of working technique with the incidence of neck and upper extremity symptoms and the possible pathophysiological pathways. However, specific information on hypothesized relationship of perceived exertion and comfort with the incidence of neck and upper extremity symptoms is largely lacking. The same goes for the possible pathophysiological pathways. Please present specific information on hypothesized relationship of perceived 1) exertion and 2) comfort with the incidence of neck and upper extremity symptoms. Please present specific information the possible pathophysiological pathways of perceived 1) exertion and 2) comfort with the incidence of neck and upper extremity symptoms in the background section.

The method section lacks vital information:

• At baseline a self-administered questionnaire was used to assess work-related
exposures, individual factors, and symptoms of disorders of the neck and upper extremities. Details about the questionnaire are missing. Is the questionnaire (partly) the same as described in the article ‘Reliability of a questionnaire and an ergonomic checklist for assessing working conditions and health at call centres’ by Norman et al. (2006), that is mentioned in the discussion? Please add a copy of the questionnaire as supplementary material.

- Please provide information on the reliability, consistency and validity of the questions on symptoms. Please add a copy of the questionnaire as supplementary material.

- Please provide some information on the 46 different work places and the work of the professionals. If these workplaces are not callcenters and the professionals are not callcentre workers, please discus whether this questionnaire is suitable for this population in the discussion section.

- Participant drop-out occurs in all longitudinal studies, and if systematic, may lead to selection biases and erroneous conclusions being drawn from a study. Please provide information on drop-out in this study and how the workers were recruited..

- Please add an English version of the ergonomic checklist designed for the assessment of computer work exposure [28] questionnaire as supplementary material.

- Please provide information on the number of ergonomist that performed the ergonomic assessment of computer work exposure and some information about their qualification, such as, whether they are certified ergonomist (Eur.Erg.) or not.

- Please add Table 2. (Items used for classification of working technique. The score range for each item is presented. Overall score range 1 – 25), from the article by Lindegård et al. (2003) as supplementary material.

- Since no information about is provided about the costs, and no economic evaluation has been performed, the claim that screening for exertion and comfort is cost effective is not supported by the results and should be omitted.

Minor Essential Revisions

- Change the title to:
  ‘Perceived exertion, comfort and observed working technique in professional computer users and associations with the incidence of neck and upper extremity symptoms’

Or

‘Exertion, comfort and working technique in professional computer users and associations with the incidence of neck and upper extremity symptoms’

- There has been much debate about the between comfort and discomfort [1].
For example, a study by Zhang et al. [2] found that physical factors underlie discomfort, while comfort was associated with feelings of relaxation and well-being. Please discuss the differences between comfort and discomfort, and why it is sufficient to only measure comfort in this study.

- Please explain the term 'censored' in table 1

Discretionary Revisions

- Calling the neck and the scapular region, the neck region, and the shoulder and upper arms region, the shoulder region does not seem very logical or precise. Shouldn’t the scapular area be a part of the shoulder area? Shouldn’t the upper arm be a part of the arm area?

- The term ‘professional computers users’, although not formally incorrect, is easily confused with computer professionals (who work in the IT-industry on the development of software) or with highly skilled computer users. Consider replacing ‘professional computers users’ with computer workers or even office workers, if this is the case.

- The first two references refer to (specific region in) France and rheumatology and are not the most suited for this claim. The same goes for reference 5 and 6.

- Test–retest reliability and validity of self-reported duration of computer use at work has been questioned. IJmker et al [3] stated that the use of self-reports lead to the misclassification of exposure to computer use for more than 80% of all persons. Discuss the limitations of using self-reported duration of computer use.


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 that I have no competing interests