Prevalence of musculoskeletal symptoms in office workers - Results of a company-based cross sectional study in Germany

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Background: The relationship between disorders in the upper extremities and work at visual display terminals (VDT) is a recurring topic of public discussion. Reliable data regarding the prevalence of musculoskeletal disorders among German VDT workers are hardly available.

Aims: A study involving a random sample of 1,065 employees in Germany was carried out in order to estimate the prevalence of upper extremity and neck symptoms and disorders. Besides prevalence, possible symptom-predicting factors should be determined.

Methods: In a chemical company, employees working more than 1 hour per day at a VDT were asked to answer a standardized questionnaire based on the Nordic Questionnaire [1] and selected items of the COPSOQ [2]. Various types of VDT workplaces (e.g. office, laboratory, production) were considered and included in the study. Workplace conditions were documented by external specialists using a checklist [3]. The influence of individual, psychosocial, work-related and workplace-related factors were calculated by means of logistical regression analysis for symptoms occurring in the neck, shoulder, elbow/forearm, and hand/wrist. Possible predicting factors as well as moderating factors were summarized in four modules and included in multivariate analysis (***Fig. 1***).

Results: Women constituted 35.9% of the evaluated group of employees. The average age was 39.9 (+/-9.5) years; the average daily VDT use amounted to 5.1 (+/-2.3) hours/day.

In a 12-months period, 55% of the employees reported neck symptoms and 38% pain in the shoulder region. The hands/wrists and elbows/lower arms were less affected with a prevalence of 21% and 15% respectively (***Fig. 2***).

Women suffered significantly more frequently from neck and shoulder symptoms than men. Moreover, shoulder pain increased with the employees' age. For employees working more than 6 hours per day at a VDT, the duration of such work had a significant impact on the severity of the symptoms (***Fig. 3***).

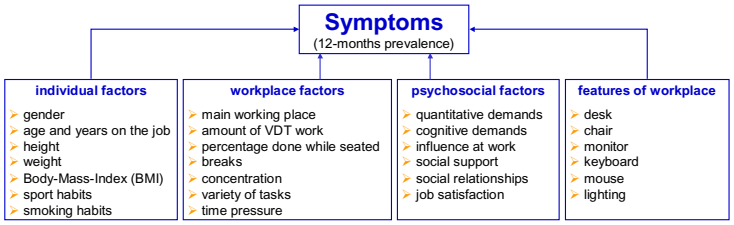

Fig. 1: Discussed factors of influence on symptoms

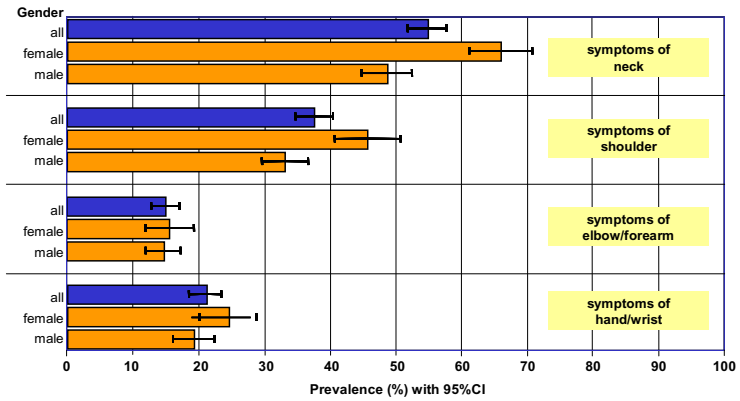

Fig. 2: 12-months symptom prevalence (incl. 95%-CI, n = 1,065)

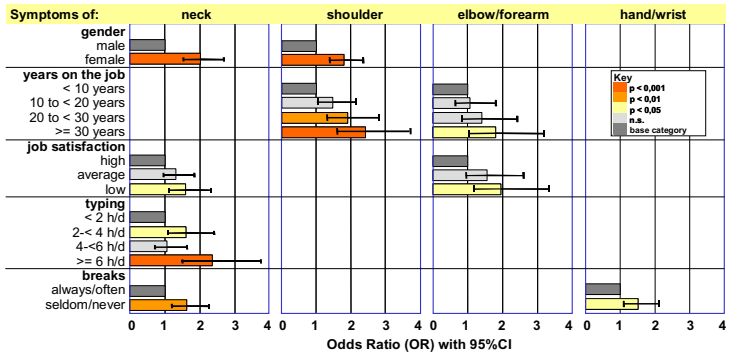

Fig. 3: Predicting factors for the 12-months symptom prevalence. Odds ratio with 95% confidence interval.

Conclusions: With regard to musculoskeletal symptoms of the upper part of the body, preventive measures at VDT workplaces should focus on the neck and shoulder region. Besides ergonomic measures, the organization of work should allow regular breaks to avoid sitting over long periods. In this way, other associated symptoms (e.g. dry eyes, headache) might be prevented as well.

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References:

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