

Preventing work-related upper limb musculoskeletal disorders by using the Saltsa method: a pilot study in a Belgian company

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Introduction

Upper limb musculoskeletal disorders (MSDs) are major causes of work disability in the European Union (prevalence rates between 17-30% among industry workers). Treatment and lost productivity cost billions of euros each year (0.5–2% of the Gross National Product). To detect and to evaluate work-related MSDs at an early stage, an international protocol was developed (Saltsa). Mensura implemented this Saltsa method.

Research question: is Saltsa a practical and effective tool to detect work-related upper limb MSDs among workers in a microelectronics company?

Population and methods

From February to December 2017, all 308 workers (of which 82 in temporary employment) underwent the Nordic Musculoskeletal Questionnaire screening. 74% (n=228) were free from MSDs. All workers who reported symptoms of pain or paresthesia in the neck, shoulder/arm, elbow, hand/wrist, or fingers in the preceding 12 months underwent a standardized physical examination by the occupational health physician (OHP) based on the Saltsa criteria. Additionally, employee characteristics were collected (age, work seniority, stress, BMI, and physical activity).

Results

Based on physical examination according to Saltsa, the prevalence of -one or more- MSDs was 14% for men (95% CI 10.5-18.3) and 41.9% for women (95% CI 36.5-47.5). The 82 temporary workers reported a much lower prevalence with 6.1% (95% CI 2.6-13.5). Among workers having one of the three main MSDs (rotator cuff syndrome, epicondylitis, and carpal tunnel syndrome), high rates of cervicalgia and cubital tunnel syndrome were additionally found.

The results highlighted that some of the workstations were more problematic and revealed a prevalence of carpal tunnel syndrome, extensor tenosynovitis, and cubital tunnel syndrome up to 5 times higher compared to other workstations. Indeed, the workstations Assembly Wiring and Quality Control revealed the highest prevalence versus the lowest prevalence for the workstations Maintenance and Warehouse.

Furthermore, positive associations were found between MSDs and the level of stress and work seniority (with a prevalence of 8, 16, and 32% after one, two, and three years respectively).



Employees aged 40-49 years and 60 years or older, reported the highest prevalence of MSDs (respectively 31.1% and 41.7%), while in the age group 30-39 years, the MSDs rate was already high with 25.1%.

Conclusion

The validated Saltsa method has shown to be an effective tool to detect and evaluate work-related upper limb MSDs by the OHP in a standardized way. By assessing collective data, the Saltsa method enables organizations to map priorities and target ergonomic actions, which could inform companies' MSD prevention policies.

