

Musculoskeletal disorders in construction workers related to physical, psychosocial, and individual factors

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The aims of the thesis were: to analyze the prevalence of musculoskeletal symptoms among construction workers and study their association with factors in the physical and psychosocial working environment; to find out what is characteristic of the construction worker who has never been troubled by low back pain; to study the association between maximal trunk muscle strength, endurance and low back disorders; to study the effect of a stabilizing girdle on trunk muscle strength and endurance.

Only 8% of the construction workers (n=1773) reported no experience of musculoskeletal symptoms during the previous year. An increased prevalence was noted in certain occupational groups of construction workers. Symptoms involving the lower back were predominant. A higher prevalence of severe low back pain was found in smokers. Working with the hands above shoulder level increased the prevalence of neck and shoulder symptoms. Working in kneeling or stooping postures increased the prevalence of low back pain and severe low back pain. Frequent handling of materials was associated with low back pain, but only among the young and middle-aged workers.

Several psychosocial factors showed association with the prevalence of both neck/shoulder and low back pain. These factors contributed significantly to the prevalence of these complaints, above and beyond personal factors and physical workload factors.

There were 216 construction workers who reported that they had never experienced low back pain, although, on the average, they had worked in the construction industry for 15 years. They were slightly younger than the low back pain group, active during their spare time and predominantly nonsmokers. They experienced a higher degree of job control and less physical and mental stress.

The construction workers with healthy backs did not have stronger trunk muscles, in respect of maximal strength, than the workers with low back disorders. In contrast, there was a significant decrease in the endurance of the back muscles of construction workers with distinct low back disorders.

Regular use of a weightlifter's belt during a period of two months did not result in any significant decrease in the maximal back muscle strength. In contrast, endurance showed a tendency to decrease.