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Musculoskeletal Disorders in Workplace

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Introduction

Musculoskeletal disorders (MSDs) are widespread and increasing occupational health problems in the workplace worldwide. The causes of work-related MSDs are usually multi factorial including physical, ergonomic, and psychosocial factor. MSDs usually occur in workers who have excessive repetition, awkward postures, and heavy lifting. The International Labour Organization (ILO) and the World Health Organization (WHO) regard MSDs as a work-related disease, which is also referred to as a "new epidemic" that should be researched and solved. Therefore, it not only affects the health of workers but also creates a burden on the health system, on the businesses economic, and on the social costs to deal with their consequences. MSDs prophylaxis is needed in many countries to allow workers to avoid the symptoms of MSDs, improve working productivity, and reduce the burden on medical systems at the same time. In developed countries, many programs for the prevention of MSDs have been applied on workplace. Musculoskeletal disorders (MSDs) are one of the most relevant occupational diseases in the agricultural sector their frequency is due to the high number of manual tasks. The causes of musculoskeletal pain are varied. Muscle tissue can be damaged with the wear and tear of daily activities. Trauma to an area (jerking movements, auto accidents, falls, fractures, sprains, dislocations, and direct blows to the muscle) also can cause musculoskeletal pain.

The World Health Organization has defined a work-related disorder as one that results from a number of factors, such as coherence of work environment and the performance of the work varying magnitude , to the causation of the of the disease. The term musculoskeletal disorders (MSDs) induced or aggravated by work environment and performance.

The musculoskeletal disorders include all forms of ill health ranging from light, transitory disorders to irreversible, disabling injuries and coherations articulate disorders.

What is the most common musculoskeletal disorder?

Among musculoskeletal disorders, low back pain causes the highest burden with a prevalence of 568 million people. Musculoskeletal conditions are the leading contributor to disability worldwide, with low back pain being the single leading cause of disability in 160 countries.

Can musculoskeletal disorders be prevented?

Regular physical activity and exercise at every stage of life can reduce the risk of many musculoskeletal conditions, including arthritis, back pain, neck pain, falls and fractures.

Factors potentially contributing to the development of MSDs

Physical factors:

- Force application, e.g. lifting, carrying, pulling, pushing, use of tools
- Repetition of movements
- Awkward and static postures, e.g. with hands above shoulder level, or prolonged standing and sitting
- Local compression of tools and surfaces
- Vibration
- Cold or excessive heat
- Poor lighting, e.g. can cause an accident
- High noise levels, e.g. causing the body to tense and effects memory

Organizational and psychosocial factors:

- Demanding work, lack of control over the tasks performed, and low levels of autonomy
- Low levels of job satisfaction
- Repetitive, monotonous work, at a high pace
- Lack of support from co-workers, supervisors and managers

Individual factors:

- Prior medical history
- Physical capacity
- Age
- Obesity
- Smoking

Risk factors for MSDs

The causes of work related MSDs are usually multifactorial and there are numerous well established work related risk factors for the various types of musculoskeletal. These include physical, ergonomic and psychosocial factors. The risk factors for the development of musculoskeletal disorders are:

- Repetitive work
- Painful/ tiring positions
- Carrying or moving heavy loads
- Other risk factors such as exposure to vibrations, lifting or moving people, and prolonged standing or walking.

MSDs occur in all occupations and settings, but in some occupations are more at risk.

- Agricultural, Forestry and Fishing workers
- Construction workers
- Carpenters
- Drivers
- Nurses
- Cleaners
- Miners
- Machine operators
- Craft workers
- Tailors
- Retail workers
- Hotel, restaurants and catering workers
- Secretaries, computer operator and typists
- Loaders and un-loaders

The symptoms of WMSDs (Work related musculoskeletal disorders)

Pain is the most common symptoms associated with WMSDs. In some cases there may be joint stiffness, muscle tightness, redness and swelling of the affected area. Some workers may also experience sensations of pins and needles, numbness, skin colour changes, and decreased sweating of the hands. **WMSDs may progress in stages from mild to severe.**

- **Early stage:** Aching and tiredness of the affected limb occur during the work shift but disappear at night and during days off work.

- **Intermediate stage:** Aching and tiredness occur early in the work shift and persist at night. Reduced capacity for repetitive work.
- **Late stage**: Aching, fatigue, Sleep disturbances and weakness persists at rest. Inability to sleep and to perform light duties.

People can inherit musculoskeletal conditions from their parents, but some people develop musculoskeletal conditions as they age. Musculoskeletal conditions can also stem from infections, inflammation, or tissue damage over time. Additionally, injuries and diseases can cause musculoskeletal conditions

Treatment of WMSDs

The first approach to the treatment of WMSDs is to avoid the activities causing the injury. This approach often requires work restrictions. In some cases, transfer to a different job should be considered. A splint can also be used to restrict movements or to immobilize the injured joint. Exercise therapies are the first-line treatments recommended in guidelines for routine use in chronic low back pain (Foster et al., 2018; Qaseem et al., 2017; VA/DoD, 2017).

It also includes exercise therapies, behavioural/psychological therapies, and manual therapies. Multidisciplinary approaches, including intensive chronic pain rehabilitation programs and less intensive primary-care-based collaborative care management interventions, also have demonstrated benefits for function. Studies have shown that initial triaging to physical therapists at primary health care centres has advantages regarding efficiency in the work environment and in the use of health care (Bornhoft et al., 2019).

References

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