

HIGHLIGHTS

of the Québec Survey on Working and Employment Conditions and Occupational Health and Safety



Working Conditions that Contribute to WMSDs

What are the causes of work-related musculo-skeletal disorders (WMSDs)? Numerous scientific studies have highlighted the important contribution of working conditions to the development of WMSDs, in particular physical work demands such as forceful exertion, repetitive movements and awkward body postures.

Organisational work demands, such as work intensity, work pace, lack of decision latitude and lack of support from co-workers or supervisors, also contribute to these common health problems.

The Québec Survey on Working and Employment Conditions and Occupational Health and Safety (QSWECOHS) sheds new light on the working conditions that contribute to WMSDs. (See the sidebar entitled *Data Source* on the last page.)

> Definition of WMSDs

For the purposes of the QSWECOHS survey, WMSDs were defined as significant musculo-skeletal pain interfering with the individual's usual activities, perceived as entirely or partially related to the individual's main job, and experienced often or all the time during the 12 months preceding the survey. This definition excludes musculoskeletal problems due to traumatic work accidents, e.g. due to falls, being struck by an object or motor vehicle accidents. WMSDs often present as back or neck pain, tendinitis, bursitis, carpal tunnel syndrome or other disorders of the upper or lower extremities. (See the document *QSWECOHS Highlights: How Widespread are Work-related Musculoskeletal Disorders?*)

Physical Work Demands

Victor works for an entertainment producer. His job as a stage technician often requires him to carry sound, lighting and stage equipment. He uses dollies, but must also do a great deal of heavy manual lifting on a daily basis. Victor may be unaware that his work puts him at risk for WMSDs.

He is not alone. The QSWECOHS survey found that, in 2007, many workers were exposed to physical work demands that contribute to WMSDs. (See the sidebar *Nine Physical Work Demands Studied in the QSWECOHS* on page 2.)

Key Findings

According to the QSWECOHS, one in four workers, or approximately 898,900 Quebecers, reported being exposed to high physical work demands.

Among workers with manual occupations, more than half of the men and 44% of women are exposed to high physical work demands, as are approximately 45% of young male workers under the age of 25.

Men are more exposed in their jobs than women to manual handling of heavy loads, forceful exertion and vibration.



> **Nine Physical Work Demands Studied in the QSWECOHS¹**

- Manual handling of heavy loads without lifting devices (e.g. lifting or carrying people or heavy objects such as cases or furniture);
- Forceful exertion when using tools, machines or equipment;
- Doing repetitive movements with the hands or arms (e.g. on an assembly line, continuous data entry, work pace imposed by a machine);
- Working with the hands above the shoulders;
- Work with the back bent forward or to one side or with the back twisted;
- Doing precise movements (e.g. grasping an object with the fingertips, aligning a tool or part, or carrying out very fine hand movements);
- Exposure to vibration from hand tools (hand-arm vibration);
- Exposure to vibration from large machinery or from the floor (whole body vibration);
- Work in a standing position without the possibility of sitting.

¹ These nine physical work demands were combined into the Cumulative Physical Work Demands Index. "High physical work demands" refers to frequent or constant exposure to at least four of these nine physical work demands.

The QSWECOHS also studied prolonged computer work but this work exposure was not included in the Cumulative Physical Work Demands Index, which includes only the nine physical work demands mentioned above.

Other physical work demands can cause WMSDs but were not studied in the QSWECOHS because they are more difficult to measure in a survey.

However, female workers are more exposed than males to repetitive work, prolonged computer work and prolonged sitting. One in five men and one in eight women report frequent manual handling of heavy loads as part of their job. One in three men reports frequently doing work that requires forceful exertion when using tools, machinery or equipment.

More than one third of young women and 28% of young men under the age of 25 work in a standing position without the possibility of sitting. Approximately 34% of all manual workers perform their work standing without the possibility of sitting.

Approximately 24% of female workers and 18% of male workers spend more than 30 hours a week working on a computer. When associated with static postures of the neck or forearms or highly repetitive movements, computer work can contribute to WMSDs. Office workers and professionals are more exposed to prolonged computer work compared to other occupational groups.

Organisational Work Demands

Sarah works as a nurse in a hospital. For the last several years, patients' needs have been steadily increasing. The intensity of her workload has increased and she no longer has time to meet all their needs satisfactorily. Sarah is required to work overtime on a regular basis, which is having a major impact on her family life. Her work is also emotionally demanding.

She is not alone. According to the QSWECOHS, many workers in several sectors are exposed to high organisational and psychosocial work demands. (See the sidebar on page 3 entitled *Main Organisational Work Demands Studied in the QSWECOHS.*)

Key Findings

One in four workers cannot modify or control their work pace.

Women are more exposed than their male co-workers to high psychological work demands, low decision latitude, underutilization of skills and the inability to modify their work pace. One in five women cannot take a break during work, compared with one in ten men.

Disproportionately more women than men experience low rewards and recognition of their work efforts, an imbalance between work effort and rewards, emotionally demanding work as well as psychological harassment and sexual harassment in the workplace. Women are also more exposed to the combination of high psychological work demands and low decision latitude.

A higher proportion of men experience low support in the workplace from co-workers or supervisors than women. This is particularly the case among men over the age of 45 compared with those under 25.

Unskilled workers and labourers are more likely to be exposed to low decision latitude and low support from co-workers or supervisors compared to other occupational groups.

Managers and professionals are more exposed to high psychological work demands than other occupational groups. On the other hand, a higher proportion of them experience high decision latitude at work, high support from co-workers or superiors and high rewards and recognition at work.

Investing in Prevention

Prevention programs focused on improving working conditions, as well as campaigns to raise awareness among workers and employers, can reduce the frequency and severity of WMSDs.

In sectors that have a high rate of WMSDs, it is important to invest sufficient resources in prevention and to reduce exposure to the physical and organisational work demands associated with WMSDs.

For more information on preventing WMSDs, go to: www.inspq.qc.ca/gstms, under “*Solutions en ergonomie/Ergonomic Solutions*”.

➤ Main Organisational Work Demands Studied in the QSWECOHS

- Psychological work demands: the quantity and complexity of work to be done, as well as the time constraints that the worker faces;
- Decision latitude (work autonomy): the opportunity to choose how to do one's work and to participate in decisions related to work, as well as the ability to use one's skills and acquire new ones;
- Support of supervisors and co-workers: social and practical support received from supervisors and co-workers to complete tasks;
- Recognition: monetary (salary), social (esteem and respect from co-workers and supervisors) or organisational (job security and prospects for promotion) rewards at work;
- Effort-reward imbalance: an imbalance between the effort put into work and the recognition and rewards received;
- Sexual harassment at work: being subjected to unwanted words, gestures or actions of a sexual nature;
- Psychological harassment at work: being subjected to repeated verbal comments or actions that affect the person's dignity or personal integrity

> Data Source

The data presented in this document are taken from the findings of the Québec Survey on Working and Employment Conditions and Occupational Health and Safety (QSWECOHS). This survey was conducted in 2007-2008 through telephone interviews with a representative sample of more than 5,000 Québec workers aged 15 and over in a paying job, either as an employee or self-employed worker, for at least 8 weeks working 15 hours or more per week.

> For additional information

Report (in French): Vézina M., Cloutier E., Stock S., Lippel K., Fortin E. et al. (2011). (See Chapter 4)

www.inspq.qc.ca/pdf/publications/1336_EnqQuebCondTravailEmpSantSecTravail.pdf.

English Summary: Vézina M., Cloutier E., Stock S., Lippel K., Fortin E. et al (2011).

www.inspq.qc.ca/pdf/publications/1356_EnqQuebCondTravailEmpSanteSecTravail_VA.pdf.



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