Stress

Japanese Study Finds Job Stress Link With Workplace Injury at Small Enterprises

Several measurements of workplace stress are significantly related to a risk of occupational injury, according to a study in the August issue of the American Journal of Industrial Medicine. The study, “Impact of Psychosocial Job Stress on Non–Fatal Occupational Injuries in Small and Medium-Sized Manufacturing Enterprises,” collected data on job stresses and workplace injury from 2,302 workers at 244 factories in one Japanese city. Expanding on previous studies of occupational injury and limited aspects of job stress, the study aimed to clarify the association of broad aspects of job stress with workplace injury in small and medium manufacturing facilities. The cross-sectional study collected data through a self-administered questionnaire between August and December 2002. Study subjects worked in Yashio, Japan—the city with the highest percentage of manufacturing plants in the Saitama prefecture. Questionnaires were sent to factories with fewer than 200 employees randomly selected from the a commercial directory. Job stress was measured through nine scales of psychological stressors, two scales of psychological stress reactions, and three scales of social support. Perceived job stress was evaluated by a Japanese version of the Generic Job Stress Questionnaire developed by the U.S. National Institute for Occupational Safety and Health. Sociodemographics, lifestyle, physical and psychological conditions, and occupational factors were included as confounding variables. Occupational injury data included any self-reported injury, including minor scratches and cuts, in the previous one year.

Men, Women Report Different Rates.
The participants’ mean ages were 45 and 46 years for men and women, respectively. Forty-five percent of the participants were more than 50 years old. The sample was primarily male (67 percent) and married (70 percent). Twenty-nine percent of the respondents were college graduates. Most of the participants worked in the metal and chemical sectors (57 percent), and the largest group identified themselves as working in manufacturing jobs (46 percent). The participants were divided into high and low stress groups based on median scores from the job stress scales. A depressive symptoms scale with a marker of depression symptom levels was also used to designate the higher-stress participants. Among the respondents, 40 percent of men and 20 percent of women reported an occupational injury in the previous year. Due to the large gender differences in injury rates, the analyses were conducted separately for men and women.

Injury, Some Stresses Linked.
“Men and women’s reported levels of job stress were significantly different on many scales,” the study found. “For example, men reported higher scores for quantitative workload, variance in workload, cognitive demands, skill utilization, responsibility for people, and job control than women. Women had higher scores on job future ambiguity and social support from the family.” Univariate logistic regression analyses indicated that nine out of the 14 psychosocial job stress variables were significantly associated with occupational injury in men. Five of the variables were significantly associated with injury in women, the study added. High quantitative workload, high cognitive demands, and low job satisfaction had a significantly increased risk of injury for both sexes, the study found. Injury in men was also associated with high variance in workload, high job future ambiguity, and high depressive symptoms. Women’s injuries were associated with low job control and high intragroup conflict. After adjusting for confounding factors, high quantitative workload, high variance in workload, high cognitive demand, and high depressive symptoms were significantly associated with injury in men, while low social support from colleagues and family were related to women’s injuries.