

Therefore, it may interfere with work activities and result in loss of productivity. Since numbness is seldom confused with pain, most studies on pain do not cover numbness. In other words, most studies on musculoskeletal conditions leave out some portion of the cases that may be responsible for remarkable loss of productivity. In our study, cases of numbness of the knees had the highest proportion with limitation of motion. Although our case number was small, the findings are quite consistent across job categories. This supports our argument that musculoskeletal conditions other than pain should be studied more extensively. In fact, when all job categories and body parts are taken into account, cases with numbness had the highest proportion with limitation of motion (20.3%), even higher than that of cases of pain (13.6%). Therefore, we should pay more attention to this condition.

Nursing staff generally constitute the largest portion of employees at a hospital and perform most of the medical care for patients. We found that nursing staff had the highest risk of work-related musculoskeletal complaints among health-care workers. The result was compatible with those in many other studies.^{7,18-20} However, the terms used to describe the musculoskeletal discomforts may cause differences. As most of the previous studies did not distinguish among pain, soreness and numbness, many cases of soreness and numbness could be categorized as cases of pain, and the prevalence of pain might be overestimated. For instance, the prevalence of low back pain among nursing staff was 69.7% in a previous study in Taiwan,²¹ but was only 48.2% in our study. Nonetheless, the difference could also result from differences in the type of work performed (medical centers vs. local hospitals) or differences in age or duration of employment of the study populations. Since nursing aides are not included as formal members of nursing staff at most hospitals in Taiwan, nurses must perform all nursing cares for patients and usually remain standing for most of the working hours. This might be one of the reasons that musculoskeletal discomfort of the lower leg was high among nursing staff in Taiwan.

We found that a high prevalence of musculoskeletal discomfort of the neck and shoulder was high among doctors, especially dentists. This could be due to the

fact that they often stay in the same position for long periods of time. Dentists had the highest risk of musculoskeletal complaints among doctors, and the 93% prevalence was higher than that reported by Bassett (62%).²⁵ The most frequently affected bodily parts were similar to those observed in other studies.^{27,30} In addition to high-risk work positions, dentists generally have a greater chance of being exposed to gases for anesthesia, which may cause numbness.³⁶⁻³⁹

The prevalence of musculoskeletal complaints among medical technicians has been much less frequently studied than that among other health-care professionals. Our study showed that they also have high prevalence of musculoskeletal discomfort. X-ray technicians had the highest risk of 100%, which was higher than that in a previous study.²⁵ As they often move patients and x-ray machines, their shoulders, lower backs, lower legs, wrists, and hands are easily affected by musculoskeletal problems.

Musculoskeletal discomfort is often a chronic condition. Therefore, it is reasonable that we observed higher risks among older workers and workers with longer duration of employment. These associations were also observed in a previous study in Taiwan.²¹ Nonetheless, effects of aging and other risk factors may also contribute to the associations. Engels et al. found that the length of working hours and occurrence of musculoskeletal discomforts were correlated.²⁵ Since all health-care workers in Taiwan except doctors are covered by the recently reinforced Basic Labor Law, which sets standards on work time and overtime of workers, we hope the musculoskeletal problems among health workers will be reduced.

We found a higher prevalence of musculoskeletal conditions among health-care workers in Taiwan in comparison with those in other countries, and this may be due to the fact that we included conditions other than pain. On the other hand, the estimate of average workdays lost due to musculoskeletal condition by each affected worker was lower than those observed in other studies.^{15,23,33-34} This may be attributable to the fact that our participants generally had a relative short period of employment in the health-care field and that the hospital requires certain documentation of sickness from a doctor for employees to take sick leave. In addi-