Work-related Musculoskeletal Disorders among Medical Staff in a Radiology Department

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Background: The aim was to investigate the association between musculoskeletal disorders (MSD) and work-related risk factors in the medical staff in a single radiology department. Methods: The study was conducted in a radiology department with 107 staff members. A self-administered, modified Nordic Musculoskeletal Questionnaire was used to determine work practices, work descriptions, prolonged postures and movements, and body pain. Ninety-seven questionnaires (93.3% response) were returned for analysis. Results: The majority of respondents (77.3%) reported at least one episode of body pain during the previous year. Less than half (44.3%) of respondents were able to have time off during work shifts, and 42.3% worked more than eight hours per shift. Pain in the neck or shoulder (61.9%) was the most common complaint. There was a lower incidence of body pain for staff members who could arrange at least some time off during the work shift than for staff unable to do so. Conclusions: MSD among staff in the radiology department were related to work posture and movement. Time off taken during a work shift appeared to be a protective factor lowering the incidence of pain in all parts of the body.

Key words: musculoskeletal disorders, occupational risk factor, radiology department

INTRODUCTION

Our colleagues on the medical staff in a radiology department frequently complained of MSD, usually involving the shoulders and back. The offending factors were assumed to be the daily exposure to different radiology tasks such as moving and positioning patients for imaging. Radiologists spend most of their time archiving pictures and generating reports, spending less time on diagnostic or interventional angiography. When performing angiography, radiologists routinely wore radiation protective aprons weighing approximately 4.3 kg. Nurses primarily attended to the health of patients. If a contrast-enhanced imaging study was required, nurses set up the intravenous line and manually injected the contrast medium. The archivists, physicists, and assistants rotated between different department sections to gather and manage patient information and imaging data.

We believed that if we discovered the risk factors associated with MSD, the standard operative procedures could be modified to provide a safer working environment. There are few occupational health surveys on radiology staff in the literature. We examined the associations between MSD and work-related risk factors in our radiology department.

METHODS

Population

The study population was the entire medical staff in the Department of Radiology of Tri-Service General Hospital, National Defense Medical Center, Taipei. A total of 107 staff members were invited to participate in the survey. Seven declined to participate, with 100 staff participating (93.5% response rate). The staff completed the questionnaire during a regular meeting after being briefed by the researchers. During the briefing, the researchers explained the background and rationale of the study. Staff members were reassured that individual identification was not required in the questionnaire and that the information pro-