Musculoskeletal disorders among Rajavithi hospital workers in central Bangkok

Charuwan Manmee PhD, Kanya Janpol MSc, Wannakorn Homsuwan BSc, Sinjai Invichai BSc

Division of Research and Technology Assessment, Department of Academic Support, Rajavithi Hospital, Bangkok, THAILAND

Introduction
Musculoskeletal disorders (MSDs) have become a major concern for hospital workers, employees, employers and governments because of their health impacts and productivity of the work (Fulton-Kehoe et al. 2000). Literature reviews worldwide have presented varied prevalence of MSDs among professions including in hospitals (Oude Hengel et al. 2011, Muralidharan et al. 2013, Fonseca Nda and Fernandes Rde. 2010) Prevalence of MSDs among hospital workers is not well documented and has not been taken seriously in Thailand. This study aims to determine prevalence of MSDs and associated factors related to MSDs among personnel working in Rajavithi Hospital (RJH), a tertiary referral hospital in Bangkok, Thailand.

Method
A cross-sectional study was conducted in 1,557 personnel. One criterion for eligible participant was work experience in the current position at least 1 year. Independent variables were general characteristics such as gender, age, BMI, income, work types and positions, work experiences, educational levels, health problems, and recreation. Dependent variables were MSDs. Data were collected using a self-reporting questionnaire which was based on the Standardized Nordic Questionnaire. The questionnaire was divided into two parts. Part I included socio-demographic data including sex, age, education, income, work department, years of working, shift work, general health status, health behavior and employment history. Part II sought to obtain information on work related MSDs, locations of MSDs over the previous 12 month periods and last 7 days on these nine body areas as neck, shoulders, upper back, elbows, low back, wrist/hands, hips/thighs, knees and ankles/feet. Descriptive statistics as percentage, mean, SD and frequency of each variables were calculated for general characteristics and 95% confidence Intervals were computed. Binary logistic regression was performed to assess the associations between variables and MSDs associated risk factors. The Ethics committees, Rajavithi hospital approved this study.

Results
The mean±SD of participant’s ages was 39.3±11.6 years old, and it ranged from 18-75 years old. Among the personnel, almost 81% were female. Most of the participants were single (54%) and had bachelor degree for their education levels (44.5%). The majority of personnel had normal BMI (59.2%); however, 29.3% reported health problems such as Diabetes Mellitus and Hypertension. Eligible participants were classified into three clusters of work types, nursing cluster (59.5%), academic cluster (24.8%) and directing cluster (15.7). Regarding health behavior, 22.2% reported alcohol consumption and 6.8% were current smokers. The results revealed that 87.5% of personnel had MSDs problem at least one out of nine body parts in the past 12 months. The most prevalence of MSDs was found in neck (55.3%), followed by low back pain (55.1%) and knee (47.9%). Past 7 days prevalence were low back pain 42.9%, neck 40.5% and knee 37.6% respectively. The prevalence of the prevention from normal activities during the last 12 months were slightly
different with the low back complaint being highest followed by knee and ankle/foot respectively. Nurses (36.1%) had the highest prevalence of MSDs among the health workers, followed by support staffs (15.9%) and back officer staffs (12.8%). Binary logistic regression analyses showed that female (OR 1.80, 95%CI 1.13-2.88) and light sleep at night (OR 1.57, 95%CI 1.03-2.40) were significantly associated with MSDs (p<0.05). BMI, work position, educational levels, residential areas, tea and coffee consumption, alcohol consumption, shift work and exercise were not statistically significantly associated with increasing odds of reporting MSDs during the past 12 months.

Discussion

The prevalence of MSDs in this study is consistent with the literature. For MSDs in neck, low back and knee, the association appeared with the index of repetitive gestures, long time working in static standing postures and improper neck postures (Fonseca Nda and Fernandes Rde. 2010). This study agreed with previous studies reported that females were more likely to develop MSDs (Chaiwanichsiri et al. 2007, Mbada et al. 2012). One possible explanation is due to the majority of personnel in this study was female. Light sleep at night and lack of sleep increases risk of MSDs. Our findings are in agreement with previous studies that reported sleep disturbances to be associated with ill-health as measured by musculoskeletal problems and mental disorders (Miranda et al. 2008, Salo et al. 2010). BMI was not statistically significantly associated with MSDs, mainly because most of the participants in this study were not overweight. To conclude, the high prevalence of MSDs particularly for neck, low back and knee is an important finding affecting the health of hospital workers especially nurses and health care workers. Personnel and work related risk factors of MSDs determined in this study were useful for health promotion and the occupational health surveillance program. Further research should focus on improving work conditions and environments in risk groups. Ergonomics intervention study should also be implemented to study the development of MSDs among hospital workers.

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References