Poster Presentation

Musculoskeletal

0080 MEASUREMENT OF PHYSIOLOGICAL WORKLOAD AND MUSCULOSKELETAL FATIGUE AMONG NURSING ATTENDANTS IN TAIWAN

Pi-Min Shih, Shih-Yi Lu, Yen-Hui Lin*. Department of Occupational Safety and Health, Chung Shan Medical University, Taichung city, Taiwan

Introduction During the process of caring for patients, nursing attendants frequently require to help patients with lifting/transferring, patting/turning and rehabilitation. Nursing attendants are required to exert forceful and awkward postures for extended periods of time that caused musculoskeletal disorders. This study is to survey the work situation, physiological workloads, and musculoskeletal disorders associated with prolonged nursing attendance tasks in nursing attendants.

Method The self-administered questionnaires are assessed via a cross-sectional study of 190 female workers in Taiwan. Information is obtained on demographics, job characteristics, health status, and physiological workload.

Results and Discussion The observational result shows that the most common prevalence of physical discomfort was lower back (69.5%), followed by right shoulder (47.9%), left shoulder (44.2%), and neck (37.9%). Meanwhile, the most pronounced tired is to help patients with lifting/transferring (79.2%), followed by patting/turning (55.1%). The anticipated results of this study could be a workplace task design reference for improvement of musculoskeletal fatigue and disorders among nursing attendants.

Poster Presentation

Respiratory

0081 CHANGE IN RESPIRATORY HEAT FLOWS IN RESPONSE TO WEARING HALF-MASK RESPIRATORS IN HOT-AND-HUMID ENVIRONMENT

1Chen-Peng Chen*, 2Yi-Chun Lin, 3Hui-Chen Wei. 1Department of Occupational Safety and Health, China Medical University, Taichung, Taiwan; 2Department of Public Health, China Medical University, Taichung, Taiwan

Introduction In respiratory physiology, the microenvironment around the nasal cavity is at the same temperature and humidity as the ambient air. When using a respirator a microenvironment develops around the nasal cavity. The heat load in this microenvironment deviates from that in the ambient air, shifting the paradigm of metabolic heat transfer via respiratory heat flows. This study determined the change in respiratory heat flows among users of half-mask respirators under different thermal conditions.

Methods Twenty-five participants (13 males and 12 females) were required to wear two models of half-mask respirators (one filtering facepiece without exhalation valve and one elastomeric facepiece with valve) and walked on stairs (130–200 W/m²) for 30 min in a climatic chamber. Combinations of air temperature (25, 29, and 33 °C) and relative humidity (55% and 75%) were applied to develop various levels of heat stress.

Results The temperature of the respired air taken inside the filtering facepiece was greater than the level inside the elastomeric facepiece. Using the ISO/TS 16976–5 model, a reduction in the respiratory convective and evaporative heat flows was observed when the heat load in the ambient air was raised ($R^2=0.447$ and $0.470$, respectively). The difference between the respiratory heat flow via convection and that via evaporation decreased as the heat stress from the ambient air increased when the filtering facepiece was used ($0.721$).

Conclusions The metabolic heat built up in the microenvironment inside a respirator without an exhalation valve could alter the development of respiratory heat flows. Caution should be exercised to prevent imbalance in thermoregulation when using these respirators in hot-and-humid conditions.

Poster Presentation

Other

0083 MARKET VARIABILITY- SAFETY FLUCTUATIONS. MINERAL PRICES AND OHS AMONG BOLIVIAN COOPERATIVE MINERS

Mel Trueba. University of Sussex, Brighton, UK

Introduction Focusing on the long term OHS impacts of rises and falls in mineral prices has since been a major concern in the occupational health and safety literature. Drawing on a combination of quantitative and ethnographic data this presentation explores the relationship between commodity prices and work-related injuries and fatalities among Bolivian cooperative miners. The presentation describes the short term health and safety impacts of rises and falls in mineral prices together with their complex pathways of influence before analysing the long term OHS impacts of market variability. Inviting reflection about the role of global trade relations and interdependencies in shaping workplace health and safety this presentation demonstrates that a focus on exposure assessment and workplace interventions is not enough for improving OHS. I suggest that greater attention is to be paid to understanding the macro-economic determinants of OHS in order to identify locally-relevant policy points of action.

Poster Presentation

Policy/Impact

0084 OVERWORK AND ITS IMPACT ON WORKERS’ HEALTH: A CROSS-COUNTRY COMPARISON OF OVERWORK-RELATED CARDIOVASCULAR MORTALITIES AND ITS REFLECTION IN THE TAIWANESE SITUATION

1Cheng-Kuan Lin*, 2Ro-Ting Lin, 3Harvard T.H. Chan School of Public Health, Boston, MA, USA; 4China Medical University, Taichung, Taiwan

Introduction Many Asian countries experienced the rapid change in industrial structure, which has resulted in a notable increase in occupational diseases, particularly overwork-related cardiovascular diseases (CVDs). “Overwork” or “Karoshi” has since been a major...
Injuries

Objective To determine if delays in the workers’ compensation process, indicated by failures in claim filing, adjudication and provision of wage replacement (WR), are associated with poorer RTW outcomes.

Methods This study examined standard workers’ compensation claims with an injury date between January 2007 and December 2012, with at least one-day of WR, and which were not terminated for reasons other than RTW within the first 12 months of the claim (n=80,322). Logistic regression models explored the association between: i) delays in the injured workers (IW) claim lodgement, the IW’s employer’s lodgement of the claim with the insurer, and receipt of first compensation payment, and accumulating 52 weeks of WR; and ii) socio-demographic/economic, occupational, and injury-related factors and the aforementioned delays.

Results All delays were associated with increased odds of reaching 52 weeks of WR. The more delays, the greater odds of a long-term claim. Different factors were associated with each different delay.

Conclusions The predictive ability of delays in claim lodgement and processing and receipt of compensation payments demonstrate where improved claims management and adjudication could reduce the proportion of workers on long term WR.

Oral Presentation

Policy/Impact

Objective THE IMPACT ON LABOUR MARKET AFFILIATION OF CHANGES IN SICKNESS ABSENCE BENEFIT LEGISLATION USING A NEWLY DEVELOPED DANISH REGISTER ON SALARY AND SOCIAL PAYMENTS, 2010–2014

Methods A register on sick leave benefits and related payments for Danish workers between 2010 and 2014 was used to examine the impact of the Danish National Health Insurance on the wage and social security payments received by Danish workers. The study used data from the National Health Insurance Register, the Danish Tax Administration, and the Danish Labour Market Service. The results were analyzed using statistical methods, including logistic regression analysis.

Results The study found that the Danish National Health Insurance had a significant impact on the wage and social security payments received by Danish workers. The results showed that the implementation of the new legislation had a positive effect on the wage and social security payments received by Danish workers, with a statistically significant increase in the amount of payments received.

Conclusions The results of the study suggest that the implementation of the new legislation had a positive impact on the wage and social security payments received by Danish workers. The findings provide evidence that the Danish National Health Insurance has a positive impact on the labor market affiliation of Danish workers and highlight the importance of ongoing research to monitor the effects of changes in legislation on the labor market.