Poster Presentation

Other

0077 SHOULD OCCUPATIONAL HEALTH PATIENTS RECEIVE THE MEDICAL RECORDS CONCERNING THEIR MEDICAL VISIT?

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Objectives Our study examines the impact and importance of providing medical records at the end of the visit in occupational medicine clinics (OMC) on patients and occupational physicians.

Methods This study is a cross-sectional study. Data was collected from patients visiting four different OMC during 2015 for a fitness for work evaluation and includes 287 questionnaires. We also collected questionnaires from 62 occupational physicians (OPs). The satisfaction range in the questionnaires was between 1 (very slightly satisfied) and 5 (very satisfied).

Results When patients were provided with the medical information in writing and orally, they showed a higher level of understanding (4.3 and 4.4 compared to 3.8 respectively, $p < 0.001$), higher level of confidence in their OP (4.4 and 4.3 compared to 3.7 and 4 respectively, $p < 0.001$), higher level of satisfaction (4.3 and 4.4 compared to 3.8 respectively, $p < 0.001$), and higher sense of control and ability to correct the record (1.8 compared to 1.4 respectively, $p < 0.01$). Doctors responded that giving the results orally to patients (39/62, 63%) would lead to more appeals of decisions. However, they believed that giving oral information would better clarify the work restrictions (4.6 compared to 4.1 respectively, $p < 0.05$) and cause patients to trust them more (4.6 compared to 4.1 respectively, $p < 0.05$).

Conclusions We recommend sharing the medical records with patients and including an oral explanation, understanding that the advantages overcome the disadvantages of this approach.

Poster Presentation

Musculoskeletal

0078 THE RISK FOR LOW BACK PAIN CAUSED BY DRIVING PROFESSIONS IN A YOUNG ADULT POPULATION

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Background The aim of this study was to assess the relationship between the incidence and exacerbation of Low Back Pain (LBP) in young professional drivers

Methods In this controlled historical prospective study we included all male Israel Defense Forces (IDF) soldiers drafted between the years 1997–2006, followed them for 3 years and categorised them into three groups: administrative, light-duty

vehicle drivers and heavy vehicle drivers. The incidence and recrudescence of LBP was calculated for soldiers with or without a medical history of LBP in either professional group accordingly.

Results The incidence rates for LBP were 0.7%, 0.34% and 0.43% for the combined administrative and light vehicle driver groups, heavy vehicle driver and total driver groups, respectively (averagely 0.65%). The Relative Risk (RR) for severe LBP exacerbation for soldiers with a history of LBP without clinical findings was 1.4 ($p < 0.001$) and for soldiers with a history of LBP with mild clinical/radiographic findings was 3.8 ($p < 0.01$). Examination of RR exacerbation rates within different severity tiers yielded a similar trend amongst all professions.

Conclusions The crude incidence rate for LBP was found to be 0.65% - lower than literature reported rates, possibly attributable to our more stringent variable definition of severe LBP. The most prominent risk factors identified in our study include: a history of LBP and multiple complaints of LBP at recruitment. Driving profession in young age is not a risk for LBP.

Poster Presentation

Exposure Assessment

0079 CHARACTERISTICS OF PARTICLE SIZE DISTRIBUTION IN CONCRETE FINISHING WORK

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It is known that workers at construction sites are exposed to the risk of dust containing crystalline silica while crushing concrete, grinding concrete surfaces, cutting bricks, cutting rocks, and ballasting structures. This study was conducted to identify size-distribution of crystalline silica among concrete finishers in the construction industry to establish systemized management for the construction sites.

In order to measure the size of dust, a Personal Cascade Impactor (Model 298, Anderson Sampler Inc., USA) composed of an 8-stage impact board was used. Dust was weighed three times using an electronic balance with 10–7 g readability (XP2U, Mettler toledo, Switzerland) to acquire the mean value. Crystalline silica was analysed using Fourier-transform infrared spectroscopy (FT-IR) in accordance with the NIOSH Manual of Analytical Methods of NIOSH #7602. To calculate the mass fraction of dust for each size of dust particle, ACGIH's Particle size-Selective Sampling Criteria for Airborne Particulate Matter was used.

The results of weighing dust collected from each stage and a cumulative graph was illustrated from the stage with the smallest particle size (stage, 0.52 μm or smaller) to draw the trend line and find the median diameter of mass using the effective diameter limit corresponding to 50% cumulative probability. Then, it was 10.958 μm –12.206 μm for concrete chipping and 10.462 μm –11.476 μm for concrete grinding. Considering the proportion of crystalline silica in the dust from each stage, crystalline silica content was higher for smaller particle sizes. The content was particularly high in stage 6 (1.55–3.5 μm) and stage 8 (0.52–0.93 μm).

Poster Presentation

Musculoskeletal

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

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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

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Objectives 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

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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 calculations 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

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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