

arranged were establishing restrictions and limitations, adjudication, establishing causation, optimising treatment, determining maximum medical recovery, providing a diagnosis, establishing a prognosis, and delaying claim payment. A number of important limitations to the current approach to IMEs were identified, including lack of specific training or accreditation for clinicians performing these assessments, lack of standards for assessment reports, and the potential for considerable conflict of interest in that referral sources select clinicians that are well paid to provide reports, and sent more referrals if their reports are valued.

Conclusions Our review provides guidance on priorities for future research regarding the conduct, use, and interpretation of IMEs.

151 SOCIAL SECURITY IN BRAZIL: THE IMPACT OF EPIDEMIOLOGICAL NEXUS ON THE BENEFITS RELATED TO OCCUPATIONAL DISEASES

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Objectives The Ministry of Social Security, in order to face the under-reporting of occupational accidents and diseases, has introduced new methods of identifying them. In addition to the Employment Accident Notification (CAT), the Technical Epidemiological Social Welfare Nexus (NTEP) was established in 2007. This work intends to analyse the role of the NTEP in improving information regarding to the work-related diseases and, more specifically, on the trend and variation of benefits paid for them.

Methods Through the NTEP it is possible to establish a nexus for each area of the economic activity, focusing on data of incapacitating diseases recognised by social welfare and involving more than 15 days' absence from work, using the ICD-10.

Results Benefits for work-related diseases increased 128.2% during 2005–2008. However, the greatest changes occurred after 2007. From May 2006 to March 2007, when only the employer's CAT was used, 125,246 Accident and Disease Assistance authorisations were issued. But, with the addition of the NTEP to the CAT this number rose to 293,912, an increase of 134.7% over the period from April 2007 to February 2008. The detachable figures are for 'musculoskeletal system and connective tissue' (107,764 cases), 'mental and behavioural disorders' (8,930 cases), and 'diseases of the nervous system' (8,396 cases).

Conclusions The accident benefits for work-related diseases are growing more than other welfare benefits. This reality requires more studies and technical insights as well as priorities in terms of specific strategies for OSH policy.

152 SITUATION AND FACTORS RELATED TO HEALTH EXAMINATION ACCORDING TO OCCUPATIONAL RISK IN THAI GOVERNMENT HOSPITALS

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Periodic medical examinations are typically carried out in the context of a general health examination and an occupational health examination. In Thailand, government hospitals are not required to provide occupational health examinations, because

these hospitals do not fall under the protection of Thai labour law. Therefore, the objective of this study was to evaluate the current practice of occupational health examinations in Thai government hospitals. The survey was conducted in August, 2011. The self-administrated questionnaire was sent by post to each government hospital. The questionnaire included information on demographic data of the hospital, 14 selected factors, and the activities regarding occupational health examinations. There were 465 hospitals participating in this study. Both percentage and multiple logistic regressions were utilised for statistical analyses. The results revealed that 82.6% (384/465) of Thai government hospitals conducted health examinations based on occupational risks to their healthcare workers. The uses that hospitals made of the results from their occupational health examinations were, from highest to lowest percentage, 93% (357/384) to compare to previous results, 82% (315/384) to use in OHS activities, 48.7% (187/384) to use for hospital accreditation, and 15.6% (60/384) to conduct research. The factors of significance related to the health examinations in their hospitals were as follows: medium-sized hospitals (adjusted odds ratio = 8.96; 95% CI = 2.04–39.30), the OHS support from the hospital's administration (adjusted odds ratio = 3.60; 95% CI = 1.69–7.65), and OHS risk assessment activity (adjusted odds ratio = 4.87; 95% CI = 2.28–10.41). In conclusion, hospitals where periodic occupational health examinations are not given as well as other relevant parties should initiate strategies to develop this examination for their healthcare workers to ensure their good health. Hospitals already providing this service should carefully consider how they use the data from their occupational examinations to raise their cost-effectiveness.

153 HEALTH ASSESSMENT FOR WORKERS PERFORMING VISUAL EXAMINATION IN AN ELECTRONIC ENTERPRISE OF TAIWAN

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Objectives It is understood that visual display unit (VDU) workers complain of visual fatigue during or after work hours. The objective of the study is to conduct a cross-sectional health assessment for worker performing visual examination on electronic components.

Methods The 21 female workers performing visual examination on electronic component using microscopes in an electronic enterprise of Taiwan were the study population. The face to face questionnaire survey was conducted by the occupational health physician in 2011, and the content of questionnaire included demographic data, refractive disorders, subjective symptoms, and workplace risk factors related to visual health.

Results The mean age and years of employment of the study population were 31.5 and 2.9 years, respectively. The average period of visual examination was 10.5 hours per shift and poor work-rest schedule was noted. The average actual sleeping time was 6.8 hours per day. There were 36.4% and 31.8% workers needed to shift work and night work, respectively. 77.3% workers complained of visual symptoms. 90.9% workers had extra-ocular symptoms, and shoulder discomfort was the most common one of them (81.8%). The workers with refractive disorders had higher visual fatigue than no disorders ($p < 0.05$). The workers with shift or night work patterns had higher both visual and extra-ocular symptoms than non-shift or non-night ($p < 0.05$). The worker with visual fatigue had

shorter average actual sleeping time than no visual fatigue ($p < 0.05$), and the visual fatigue could be a predictor to average actual sleeping time.

Conclusions Health surveillance for VDU workers should include not only visual fatigue, but also extra-ocular symptoms, especially in upper limb disorders, and sleep problems. Designing better work-rest schedule and ergonomic workplace may be the preventive strategies at this workplace. Future research with a longitudinal study design is needed to study the psychosocial stress, productivity effects after visual fatigue on VDU workers.

154 ASSOCIATION BETWEEN LIFESTYLE BEHAVIORS AND BODY WEIGHT CHANGES IN MIDDLE-AGED TAIWANESE MALE WORKERS: A 5-YEAR OBSERVATIONAL COHORT STUDY

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Objectives To investigate association between lifestyle factors and 5-year body weight gain among apparently healthy middle-aged male workers.

Methods A occupational cohort in an electronic-manufacturing factory was established by using a medical checkup program in 2002, and was followed up with a health examination in 2007. Baseline comprehensive questionnaires were applied for collection of lifestyle behaviours, and abdominal ultrasound was performed for evaluation of hepatic steatosis. Male worker with complete data of baseline lifestyle factors, and laboratory examination, including ALT, ferritin, were included in analysis. Cross-sectional analyses in 2002 were conducted by stepwise multiple linear regressions for exploring significant association between lifestyle factors and log-ferritin. Stepwise linear regression models for 5-year body weight gain were used for identifying significant lifestyle factors with predictive value.

Results A total of 1096 male workers with a baseline mean (SD) age of 32.5 (6.0) were included for analysis. Log-ferritin was positively associated with red meat intake, and negatively associated with blood donation, regular exercise at leisure time, and vegetarian diet. 5-year body weight gain was associated with 12-hour shift work, and vegetarian diet after adjustment for age. In subgroup analysis among overweight males (BMI > 25) with non-alcoholic steatohepatitis (NASH), blood donation was significantly associated with less body weight gain in 5 years.

Conclusions 12-hour shift work, vegetarian diet may increase body weight in male workers. behaviours of health promotion, such as blood donation, regular exercise at leisure time, were associated with lower level of ferritin, a marker of total body iron load. Blood donation was the strongest factor associated with lower body weight gain within 5 years, especially among males with NASH. Physicians should recognise related behavioural factors for hyperferritinemia and body weight gain, and give high-risk individuals health counselling based on personalised risk profiles.

155 INDICATORS TO SURVEILLANCE THE HEALTH OF NURSING STAFF

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Objective Nursing morbidity profile has changed according to the working conditions. The profile that was composed of needlestick injuries and infectious diseases a few decades ago has nowadays become prevalent for musculoskeletal disorders. Knowing the health indicators of these workers is an essential tool to implement strategies to promote their health and monitor them. The aim of this study was to analyse health indicators related to nursing work, according to the institutional determinants and health problems.

Methods The study is characterised as epidemiological descriptive, cross-sectional and retrospective, and it was conducted in seven university hospitals in Brazil, in a universe of 44. From 2008 to 2009, information about the health problems of nursing staff-related work was sent by hospitals to researchers. The "System for Monitoring the Health of Nursing Workers (SIMOSTE)", that is an online system to capture data was used. For data analysis descriptive statistics was used. After the data analysis the System allows to verify the 13 proposed indicators.

Results The indicators highlight regional disparities of the country. The indicators related to the work dynamics show, on average, that nursing staff represent 38.4% of the health team of the hospitals, nurses represent 21.8% of nursing team, and the ratio of 2.4 nursing staff per bed was found. Considering the indicators related to exposure to workloads and strain processes, the most often are the physiological workloads (RR = 43.8), biological (RR = 29.5) and psychic (RR = 26.5); the health problems reported were musculoskeletal disorders (21.5%), trauma, and external causes (13%), mental and behavioural disorders (8.3%). The indicator that relates the consequences show that in one year were registered more than 8,000 days lost at work.

Conclusion In synthesis, these indicators will allow the accompanying of effectiveness of the preventive measures adopted by the hospitals and the improvement of working conditions.

156 WORKPLACE OCCUPATIONAL HEALTH INFORMATION

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Objectives An information system on occupational hazards, injuries and near misses as well as disease and associated risk factors and prevention measures needed and/or implemented is essential for any large employer to effectively manage and mitigate injuries and diseases in work place. The information provided by a system is only as good as the information entered to the system thus staff attitude towards the system and surveillance is important to ascertain for the program to work effectively

Method A 15% stratified random sample of employees was selected to participate in the baseline online survey. The questions covered incidents, workplace hazards and employee health. The employees were contacted via email with regular reminders to participate.

Results There were 314 participants giving a 32% response rate. 23% of employees did not know or were unsure how to contact their safety health and environment officer. In the past 5 years 9% of staff have suffered needlesticks and the majority (65%) reported the incident to both their supervisor and their health and safety representative. A few reported to a colleague or first aid provider and only 1 did not report. With other occupational injuries and diseases the patterns were the same. 60% of staff have received all three doses of the Hepatitis B vaccine and 26% received flu vaccines.