

Objectives The OSH Evidence group consists of experts coming from Institutes of the partnership for European Research in Occupational Safety and Health (PEROSH). Our main objective is to facilitate knowledge transfer from scientific research into policy making by means of systematic reviews. In this project we developed a priority list of topics for reviews which should be in line with the major trends and research challenges in OSH.

Methods We took the PEROSH paper on research challenges as a starting point. In this paper seven main research areas were identified by consultation of the member institutes that are significantly prevalent and innovative in terms of preventing ill health and occupational accidents. We aimed to translate the research needs in answerable research questions. We formulated criteria to decide if this specific question should be answered with a systematic review or with a scoping review. For systematic reviews, we phrased clear answerable questions according to a predefined 'PICO' format: P = participants, I = intervention/exposure, C = comparison/control, O = outcome. For scoping reviews, we described the target population, the intervention or exposure (s) and the intended results of the scoping reviews.

Results The main research challenges identified by PEROSH were: 'Sustainable employability', 'Disability prevention', 'Psychosocial well-being', 'Multi-factorial genesis of musculoskeletal disorders', 'New technologies', 'Occupational risks of nano-materials', and 'Safety culture'. The project resulted in two lists for each research topic, one containing priorities for systematic reviews and one for scoping reviews. For example, a systematic review is needed for the research question "Is physically demanding work a risk factor for early retirement?", while a scoping review is needed for the research question "Which interventions are available to prolong working life?".

Conclusions Translating research priorities into questions that can be answered with systematic reviews and scoping reviews is feasible. The exercise helps in setting priorities for where reviews are needed.

Session: 29. Health in health care

372 NATURAL RUBBER LATEX AEROALLERGEN EXPOSURE AND ALLERGY AMONG FEMALE NURSES IN GOVERNMENTAL HOSPITALS, THAILAND

¹C S Supapvanich, ²A P Povey, ²F De Vocht. ¹Sirindhorn College of Public Health, Yala, Thailand; ²Centre for Occupational and Environmental Health, The University of Manchester, Manchester, United Kingdom

10.1136/oemed-2013-101717.372

Objectives The aim of the study was to determine the prevalence of latex allergy in nurses and to determine occupational risk factors.

Methods A cross-sectional study was conducted in 899 female nurses from three Thai hospitals with information on working conditions, lifestyle, ill-health, and symptoms related to latex use, collected by a self-reported questionnaire. Pulmonary function was determined by spirometry. Latex sensitisation was determined by using a solid-phase enzyme-labelled fluoroenzymeimmunoassay for anti-latex IgE antibodies. Inhalable aerosol levels were measured in different wards using stationary air sampling and latex aeroallergen levels in these samples were measured using a Pharmacia CAP competitive-inhibition immunoassay.

Results Health effects-related to latex glove use were reported by 17.5% (157/899) of the nurses with the majority reporting dermal symptoms (84.1%, 132/157) and to a lesser extent

respiratory symptoms (27.4%, 43/157), respectively. The prevalence of latex sensitisation was 4.4% (16/363). Occupational factors associated with dermal symptoms included working in operating theatres (OR 2.5, 95% CI 1.5 - 4.2), wearing > 15 pairs of latex gloves per day (OR 2.1, 95% CI 1.3 - 3.4), and washing hands with chlorhexidine (OR 2.1, 95% CI 1.2 - 3.5). Latex sensitisation was associated with respiratory symptoms (OR 3.8, 95% CI 1.0 - 14.5) and with decreased FEF_{25-75%} predicted (-12.22, 95% CI -23.6 to -0.88). The concentration of NRL aeroallergens in hospital workplaces ranged from 6.9 to 12.4 ng/m³.

Conclusions Use of powdered latex gloves was associated with increasing risk of developing glove-related symptoms, particularly dermal symptoms in nurses. Operating theatre nurses were a high risk group for developing glove-related dermal symptoms. Use of alternative gloves should be considered in Thai-hospitals, while also the risk associated with the use of chlorhexidine containing sanitisers should be examined further.

373 BURNOUT, A SUBSTANTIAL PROBLEM IN HOSPITAL PHYSICIANS. A MULTICENTRE STUDY ON ITS PREVALENCE, DETERMINANTS AND CONSEQUENCES IN 37 BELGIAN HOSPITALS

¹S V Vandenbroeck, ²E M Moerenhout, ³M S Sercu, ²H D M De Man, ³H D W De Witte, ³E V Vanbelle, ¹L G Godderis. ¹IDEWE/KU Leuven, Heverlee, Belgium; ²IDEWE, External Service for Prevention and Protection at Work, Heverlee, Belgium; ³KU Leuven, Department of Work, Organisational and Personnel Psychology, Leuven, Belgium

10.1136/oemed-2013-101717.373

Objectives Previous research revealed burnout in one third of the Belgian critical care physicians. Burnout leads to absenteeism, affects quality and safety of care, while work-engagement positively affects personal performance and involvement in the organisation. The aim of this study was to determine the prevalence, determinants and consequences of burnout and work-engagement in a representative sample of Belgian physicians across all medical specialties.

Methods A multi-centre survey was conducted using a 2-phased convenience sample: 1) all general and psychiatric hospitals were invited and 2) an electronic questionnaire was sent to all doctors from the participating institutions. The 29-item "Utrechtse Burnout Scale" measured 3 dimensions, "emotional exhaustion (EE)", "depersonalisation (DP)" and "personal accomplishment (PA)", scored on a likert-scale (0(never)- 6(always/daily)). Doctors with high EE (mean score > 2.50) and high DP (mean score > 1.80 (men)/ > 1.60 (women)) or low PA (mean score < 3.71) were considered at risk. Burnout was defined as high EE and high DP and low PA. The 9-item "Utrechtse Work-Engagement Scale" using a similar likert-scale determined work-engagement (mean score > 5). Socio-demographics, theory-based determinants and consequences were measured using validated scales.

Results Thirty-seven hospitals (20%) joined the study and 1198 doctors (47% female, mean age: 43.66) completed the questionnaire. Almost 89% had at least a master-after-master degree and 62% were medical specialists. The most represented specialties were anesthesia-resuscitation (12%), internal medicine (7.3%) and paediatrics (6.8%). Forty percent, 27.9% and 15.3% suffered from EE, DP and low PA respectively. Burnout was detected in 5.4%, 17.8% were at risk and 63% demonstrated high work-engagement. Important burnout determinants were "workload", "role conflicts" and "emotional strain". "Autonomy",

“skill utilisation” and “physician-nurse relation” determined work-engagement.

Conclusions A slightly higher number of Belgian doctors suffered from burnout compared to previous studies, yet also showed work-engagement. Further analysis on determinants will be conducted as a base for preventive measures and actions to improve work-engagement.

374 NIGHT SHIFT WORK AND PROLACTIN IN NURSES AND MIDWIVES - PRELIMINARY RESULTS

A B Bukowska, Peplonska, Sobala. *Nofer Institute of Occupational Medicine, Lodz, Poland*

10.1136/oemed-2013-101717.374

Objectives Night shift work and exposure to light at night suppress synthesis of melatonin and disrupt circadian rhythm. The pattern of secretion of many hormones, including prolactin, is dependent on circadian rhythm and prolactin has been found to play a role in breast cancer aetiology. So far, the data on the link between night shift work and prolactin are sparse. The aim of our study was to evaluate the association between rotating night shift work and prolactin concentration in nurses and midwives.

Methods The cross-sectional study included 347 nurses and midwives currently working on rotating night shifts and 359 nurses and midwives working during the day. The prolactin concentration was measured in the morning blood samples using the ECLIA method. The associations were estimated by multiple linear regression models adjusted for: age, number of full-term births, current oral contraceptives use and time of blood collection. A potential modification by the menopausal status was analysed.

Results No difference in the prolactin concentration was found between the women currently working on night shifts and the day nurses (geometric means (GM): 195.3 U/ml vs. 194.7 U/ml; $p = 0.948$). In women with 2 or more consecutive night shifts within one week before the blood collection, we observed a statistically significant increase of the prolactin concentration compared to the women who had only one night shift throughout that week (250.2 U/ml vs. 216.9 U/ml; $p = 0.033$). None of the examined associations were modified by the menopausal status.

Conclusions The preliminary results of our study suggest that night shift work might modify prolactin secretion.

375 THE PREVALENCE OF LATEX SENSITISATION AND ALLERGY AND ASSOCIATED RISK FACTORS AMONG HEALTHCARE WORKERS USING HYPOALLERGENIC LATEX GLOVES SOUTH AFRICA

S M Phaswana, Naidoo. *University of KwaZulu Natal, Durban, South Africa*

10.1136/oemed-2013-101717.375

Objectives The present study describes latex sensitisation and allergy prevalences and associated factors among healthcare workers using hypoallergenic latex gloves at King Edward VIII Hospital in KwaZulu-Natal South Africa.

Methods A cross sectional survey of randomly selected healthcare workers ($n = 501$), (337 exposed and 164 unexposed) at King Edward VIII Hospital, South Africa was conducted between 2011 and 2012. Healthcare worker data was collected using a

questionnaire and skin prick tests using the Stallergenes kit. Chi-square and Kruskal-Wallis test were used for significance testing on bivariate analysis. Binary logistic regression was used to test associations between dependent and independent outcomes on multivariate analysis.

Results Prevalence of latex sensitisation and allergy observed among exposed workers (7.1% and 5.9%) and unexposed workers (3.1% and 1.8%). Work related allergy symptoms were significantly higher in exposed workers (40.9%, $p < 0.05$). Duration of employment was protective against latex allergy (OR: 0.9; 95% CI: 0.8–0.9). The risk of latex sensitisation (OR: 4.2; 95% CI: 1.2–14.1) and allergy (OR: 5.1; 95% CI: 1.2–21.2) increased with exclusive use of powder-free latex gloves. Dose-response relationship was observed for powdered latex gloves (OR: 1.1; 95% CI: 1.0–1.2). Atopy (OR: 1.5; 95% CI: 0.7–3.3 and 1.4; 95% CI: 0.6–3.2) and fruit allergy (OR: 2.3; 95% CI: 0.8–6.7 and 3.1; 95% CI: 1.1–9.2) also increased the risk of latex sensitisation and allergy, respectively. The observed relation between atopy and latex sensitisation and allergy was not significant.

Conclusion This study adds to previous findings that healthcare workers exposed to hypoallergenic latex gloves are at risk for developing latex sensitisation highlighting its importance as an occupational hazard in healthcare.

376 THE PREVALENCE, CIRCUMSTANCES AND REPORTING OF PATIENT/VISITOR-ON-WORKER (TYPE II) VIOLENCE IN 6 U. S. HOSPITALS

¹L P Pompeii, ²Schoenfisch, ²Dement, ¹Jones, ²Hester, ³Smith. ¹The University of Texas, Houston, United States of America; ²Duke University Medical Center, Durham, NC, United States of America; ³St. Luke's Episcopal Hospital, Houston, Texas, United States of America

10.1136/oemed-2013-101717.376

Objectives We aimed to establish baseline measures of type II violence (patient/visitor-on-worker) and event reporting practices among workers in 6 U. S. hospitals. Findings from this survey will inform the development and implementation of a hospital violence surveillance system.

Methods An anonymous cross-sectional survey was administered to workers to examine their career and 12-month prevalence of being victims of workplace violence perpetrated by patients and/or visitors, as well as details about events that workers deemed the most serious.

Results Of the 5,312 hospital workers who responded, 49.4% and 38.9% reported a career and 12-month prevalence of type II violence, respectively. The total number of events in the prior 12 months included 1,100 physical assaults, 2,206 physical threats, and 5,676 verbal abuse events. More than half of the events were reported by nursing staff (36.7%) and patient care technologists (14.8%). Other workgroups not typically considered to be at risk also reported events including those in pharmacy, social work, food service, housekeeping, and patient financial services. Of the 2,098 most serious events in the prior year, perpetrators were more likely to be patients (76.1%) than visitors (23.9%). Factors that workers attributed to these events included patients' behavioural issues, being disoriented, being drunk, and visitors being unhappy with patient's care and long wait-times. A large proportion (75.0%) of workers indicated they reported the event; however, only a small proportion of those (26.2%) did so through a formal system (e.g., first report