

[U-Cd = 4.17 µg/g Cr] and highly [U-Cd = 11.39 µg/g Cr] polluted areas). B-Cd, U-Cd concentrations were measured by graphite-furnace atomic absorption spectrometry. Polymorphisms in MT2A (rs10636 G/C, rs1610216 C/T and rs28366003 A/G) were determined by Taqman assays. Urinary N-Acetyl-beta-(D)-Glucosaminidase (UNAG) was determined by spectrometry, urinary 2-microglobulin (UB2M) and albumin (UALB) by ELISA.

Results BCd and UCd had an association with variant alleles for MT2A (rs10636) in female living in the highly polluted group ($p = 0.017$ and 0.004 , respectively). UCd had a weak association with variant alleles for MT2A (rs28366003) in the highly polluted group ($p = 0.08$). An association wasn't found between renal dysfunction and MT2A polymorphisms variation in polluted group.

Conclusions The finding indicates genetic variation in the MT2A genes may not associate with renal dysfunction caused by cadmium exposure.

121 HAND ECZEMA IN THE CONSTRUCTION INDUSTRY: PREVALENCE AND DETERMINANTS

J G Timmerman, Heederik, Spee, Smit. *Institute for Risk Assessment Sciences (Utrecht University), Utrecht, Nederland*

10.1136/oemed-2013-101717.121

Introduction In most Western European countries, prevalence of hand eczema in the general population is estimated at around 4%. In the construction industry, a higher prevalence can be expected due to exposure to irritating and allergenic agents. Aim of the present study was to investigate the prevalence and determinants of hand eczema in several job titles within the construction industry.

Methods As part of a voluntary medical examination, a questionnaire including items on health symptoms and working circumstances was administered to construction workers between 2005 and 2011. A response rate of about 50% was achieved, 152,200 men were included: 115,379 construction yard workers and 36,821 office personnel. Hand eczema was defined as one or more self-reported skin symptoms. Associations between possible risk factors and hand eczema were assessed using log-binomial regression.

Results Hand eczema prevalence was 25% among construction yard personnel and 15% among office personnel. Skin hypersensitivity for job-related substances was reported by 10% and 3%, respectively. Hand eczema was most often reported by plasterers (36%) and bricklayers (31%). Carpenters and painters most frequently reported skin hypersensitivity (both 11%). Compared to office personnel, all construction yard job titles had a significantly increased prevalence ratio (PR) for hand eczema. Among construction yard personnel, dry skin (PR 2.02, 95% confidence interval (CI): 1.95–2.10) and nuisance due to exposure to dust (PR: 1.57, 95% CI: 1.53–1.61) were the most important determinants for hand eczema. For skin hypersensitivity, dry skin (PR 2.27, 95% CI: 2.19–2.36) and dust exposure (PR 1.78, 95% CI: 1.71–1.86) were also the main determinants. Skin hypersensitivity was reported less often among glove users (PR 0.61, 95% CI: 0.58–0.63).

Conclusion Hand eczema is very common among construction workers. Dust exposure and a dry skin type were associated with a higher prevalence of hand eczema and work-related skin hypersensitivity.

122 ABSENTEEISM BY CONJUNCTIVITIS AND DERMATITIS HEALTH CARE IN PROFESSIONALS WHO USE LATEX AT A UNIVERSITY HOSPITAL IN SÃO PAULO, BRAZIL

E.C.S. Sá, Campos, Piovesan, Pustiglione. *Faculdade de Medicina da Universidade de São Paulo, São Paulo, Brazil*

10.1136/oemed-2013-101717.122

Objectives To evaluate absenteeism in health care professionals that showed removal by conjunctivitis and contact dermatitis from the latex during the period September, 2011 to September, 2012 at a university hospital in São Paulo, Brazil.

Methods We performed a study about the absenteeism among health professionals of university hospital in São Paulo, from September 1, 2011 to September 30, 2012, with workers who have had absences related to conjunctivitis and dermatitis contact. Moreover, were consulted scientific databases (MEDLINE via PubMed, LILACS, SciELO) between October 1 and November 20, 2012, restricting the articles in English, Portuguese or Spanish, published between 1990 and 2011.

Results There was 96 workers diagnosed with contact dermatitis and 1331 workers with conjunctivitis. In the sample, were identified eleven staff who had both diagnoses of conjunctivitis and contact dermatitis: 05 were workers from various areas of the hospital and 06 were health professionals, such as: 01 laboratory technician, 01 nurse and 04 nursing technicians, who used latex gloves in their daily workday. There were 36 days of removal by conjunctivitis and contact dermatitis associated. This study showed the importance to research in different health institutions, aimed at earlier diagnosis related to latex allergy and to establish prevention campaigns, including the identification of the factors sensibilization in occupational health programs of the health care professionals.

Conclusion The study suggests the possibility of correlation between the both diagnosis of conjunctivitis and dermatitis to latex in healthcare professionals.

123 OCCUPATIONAL CONTACT DERMATITIS: INITIAL AND SUBSEQUENT WORKERS' COMPENSATION CLAIMS IN VICTORIA, AUSTRALIA

¹G Keegel, ¹Benke, ²Nixon, ¹Sim, ³LaMontagne. *¹Monash University, Melbourne, Australia; ²Occupational Dermatitis Research and Education Centre, Skin & Cancer Foundation, Melbourne, Australia; ³Melbourne School of Public Health, University of Melbourne, Melbourne, Australia*

10.1136/oemed-2013-101717.123

Objective Occupational contact dermatitis (OCD) is caused by a range of workplace exposures such as frequent hand-washing or exposure to irritating or allergic substances. We compare costs and days away from work for initial and subsequent workers' compensation claims for OCD amongst workers in Victoria, Australia.

Methods The Compensation Research Database (CRD), held by the Institute for Safety, Compensation and Recovery Research, contains de-identified details of all workers' compensation claims submitted to the Victorian WorkCover Authority. We accessed injury/disease, employment and demographic variables for OCD claims, as well as information about claim costs (in 2009 Australian dollar equivalent values) and days away from work, for the period January 1985–December 2009. The estimate for the

Abstracts

working population denominator is derived from 2001 Australia Bureau of Statistics census data.

Results There were 4773 initial claims and 416 repeat claims for OCD amongst Victorian workers from January 1985–December 2009. The yearly average for initial claims was approximately 9.4 per 100,000 part-time and full-time working Victorians. The mean cost of repeat claims (\$7,556) was higher than the mean cost of initial claims (\$4,940). These differences between initial and repeat claims are also reflected in the reported days away from work. The mean days away from work for initial claims was 40 and the mean days away from work for repeat claims was 51.

Conclusions Victorian workers' compensation claims data indicate that the cost and impact of contact dermatitis, as measured by days away from work, increases with repeated workers' compensation claims. Effort needs to be put in place to protect workers from initially developing OCD. For those workers who have developed OCD, a workplace plan needs to be in place for the avoidance or elimination of workplace exposures before the workers return to work.

124 DIFFERENCES OF MORTALITY RATES BY OCCUPATION IN KOREA: 14 YEARS FOLLOW-UP STUDY

¹He Lee, ²Kim, ³Kang. ¹The Catholic University of Korea, Seoul St. Mary's Hospital, Seoul, South Korea; ²Occupational Safety and Health Research Institute, Incheon, South Korea; ³Korea Occupational Safety and Health Agency, Seoul Regional Office, Seoul, South Korea

10.1136/oemed-2013-101717.124

Objectives The mortality rates of workers can be influenced by socioeconomic factors as well as occupational ones. This study was performed to observe the mortality rates in various occupations of Korean workers.

Methods We constructed a cohort with workers who have entered the Employment Insurance during 1995–2000. The information of death for the cohort was obtained by matching with database of the National Statistics Office. Nine subcohorts were constructed according to the Korean Standard Occupational Classification. Age-standardised mortality rates (ASR) were calculated.

Results The total cohort included 11,342,816 workers and 141,442,957 person-years. There were 292,763 deaths during 1995–2000. The ASR for death by all causes was 342.6 per 100,000 in male and 141.6 per 100,000 in female. The highest ASR showed in Agricultural, Forestry and Fishery Workers (M: 563.0, F: 206.0) and followed by Elementary Occupations (M: 499.0, F: 163.4) and Plant, Machine Operators and Assemblers (M: 380.3, F: 157.8). Professionals and related workers showed the lowest ASR (M: 209.1, F: 93.3) Elementary Occupations (M: 146.4, F: 163.4) showed the highest ASR from neoplasm (C00–D48). Professionals and related workers (M: 93.2, F: 46.9) and Managers (M: 92.1, F: 41.0) showed the lowest ASR. Agricultural, Forestry and Fishery Workers showed the highest ASR from external causes of death (V01–Y89) (M: 235.1, F: 74.7) and Professionals and related workers showed the lowest ASR (M: 36.2, F: 15.1).

Conclusion We found a profound difference of mortality rate by occupations. Occupations related to low socioeconomic position like Agricultural, Forestry and Fishery Workers and Elementary Occupations showed higher mortality rates and those related to high socioeconomic position such as Managers or Professionals showed lower mortality rates. Further study on mortality rates

of workers related to socioeconomic factors as well as work-related ones is needed.

125 HEALTH RISKS FROM OCCUPATIONAL EXPOSURE TO EXTREMELY LOW FREQUENCY MAGNETIC FIELDS (ELF-MF) AND ELECTRICAL SHOCKS; AN ANALYSIS IN NOCCA

¹P Slottje, ²Kauppinen, ³Kromhout, ³Huss, ⁴Pukkala, ³Vermeulen. ¹Utrecht University, Utrecht, Nederland; ²Finnish Institute of Occupational Health, Helsinki, Finland; ³Utrecht University/Institute for Risk Assessment Sciences, Utrecht, Nederland; ⁴Finnish Cancer Registry, Helsinki, Finland

10.1136/oemed-2013-101717.125

Objective Previous epidemiological studies have suggested possible increased health risks of occupational exposure to extremely low frequency magnetic fields (ELF-MF), in particular cancer (brain, leukaemia), neurological diseases (e.g. Amyotrophic Lateral Sclerosis, ALS), and suicide. However, results varied strongly. We aim to assess the association between occupational exposure to ELF-MF and electrical shocks and these priority health outcomes in a large population-based cohort. This could help to increase the knowledge on these health effects and potentially disentangle health risks from ELF-MF and electrical shocks, which has been put forward in particular with respect to ALS.

Methods Case-control risk analyses will be performed in the established Nordic Occupational Cancer (NOCCA) database. The pooled NOCCA population covers over 15 million adult males and females from five Nordic countries with a follow-up of cancer incidence and mortality up to 45 years in 2006. Considering the size and follow-up time of NOCCA, we aim to also study rare outcomes and occupationally exposed females, which will enrich this field of research. Exposure assessment will be based on individual job histories obtained through repeated census data, which will be linked to job exposure matrices for ELF-MF and electrical shocks.

Results/Conclusions Results of the risk analyses will be presented at the conference.

126 THE EPIDEMIC OF CHRONIC KIDNEY DISEASE OF UNCONVENTIONAL ORIGIN IN CENTRAL AMERICA - A CALL FOR TRANSDISCIPLINARY RESEARCH AND ACTION

¹C I Wesseling, ²Crowe, ³Hogstedt, ⁴Lucas, ⁵Jakobsson, ⁶Wegman. ¹IRET-Salud, Universidad Nacional (on leave), Heredia, Costa Rica; ²IRET, Universidad Nacional, Heredia, Costa Rica; ³Karolinska Institute, Stockholm, Sweden; ⁴Department of Public Health and Clinical Medicine, Umeå University, Umeå, Sweden; ⁵Lund university, Lund, Sweden; ⁶University of Massachusetts at Lowell, Lowell, United States of America

10.1136/oemed-2013-101717.126

Background Central America has seen a dramatic increase of chronic kidney disease, unexplained by conventional risk factors (CKDu), primarily affecting adult male agricultural labourers. Increases of CKDu are also reported from Sri Lanka and India. Alleged risk factors include environmental toxins. However, observations from Nicaragua and El Salvador indicate that repeated dehydration due to strenuous work in tropical climate may be a major risk factor that urgently needs to be explored using epidemiologic, experimental and interventional approaches. If heat stress and dehydration prove to be risk factors in themselves, or in combination with others, climate change will dramatically increase the population under risk in the near future. CKD increase in developing countries, regardless