Oral Presentation

Risk Assessment

0046 MORTALITY STUDY OF A COHORT OF CHEMICAL WORKERS PRODUCING PERFLUORINATED DERIVATIVES AND OTHER CHEMICALS

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Since 1968 a single factory (Veneto Region, Italy) has been the largest manufacturer of perfluorinated derivatives (PF) in UE. Intermediates for pharmaceutical and crop protection chemicals have been also produced. In total 609 subjects have been employed since production began. PF are manufactured by electrochemical fluorination. Higher homologues are no longer produced since 2012. Nowadays, a groundwater pollution of PF is involving the water supplies for a population of about 1 10 000 inhabitants.

As a first step for an evaluation of long-term health effects, we conducted a retrospective cohort mortality study on male employees, hired before year 2004, at work for at least one year, followed up until June 2016 (415 subjects), using the regional mortality rates as a reference.

High serum levels of perfluorooctanoic acid (PFOA) have been detected since year 2000 covering 121 workers (median PFOA concentration, 1817 ng/g; range, 166 ng/g for nonexposed workers to 5101 ng/g for directly exposed workers).

The cohort as a whole (12,449 PYs, 79 deaths) expresses an unexpected over-mortality (SMR: 1.07; 95% CI: 0.86–1.34), mainly due to liver cirrhosis and liver tumours. The subset of employees with a certain exposure to PFOA (plant operator, maintenance and laboratory workers) (2,351 PYs, 22 deaths) shows an higher overall mortality (SMR=1.48 95% CI 0.98–2.33) and a statistically significant excess of deaths from diseases of the circulatory system (infarct; SMR: 7.21; 95% CI: 1.80–28.85) and diabetes (SMR: 6.75; 95% CI: 1.69–26.99).

The study suffers from the limited size, and mortality is not an appropriate end-point for some diseases of interest.

Oral Presentation

Ageing Workforce

0047 POOR HEALTH, LIFESTYLE, WORK-RELATED FACTORS AND PREMATURE LOSS OF EMPLOYMENT IN OLDER WORKERS – RESULTS FROM THE HEALTH AND EMPLOYMENT AFTER FIFTY (HEAF) STUDY

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Background Populations of Western countries are ageing; in response to this, governments encourage longer working lives. However, many workers leave paid employment prematurely.

We have examined the combined importance of poor health, lifestyle and work-related characteristics as risk factors for health-related job loss among older workers.

Methods 8134 men and women aged 50–64 were recruited from 24 English general practices to the HEAF study. Participants provided information on their socio-demographic, life-style, health (self-rated health, depression, chronic disabling musculoskeletal pain, severe difficulties in daily activities), and employment characteristics. Those in paid employment at baseline were categorised at 1 year follow-up as: 'still in work and didn't change job on health grounds' (n=4,232) versus 'not in work due to health reasons (n=101)'. The remaining participants were excluded from this analysis.

Multivariate Poisson regression with robust standard errors was used to analyse the data.

Results All ill-health measures were strongly associated with health-related exit from the workplace (RR for poor self-rated health=4.5, (95%CI 3.1, 6.6)). Adjustment for smoking, leisure-time physical activity (LTPA) and job dissatisfaction attenuated these associations (RR for poor self-rated health=3.1, (95%CI 2.0, 4.8)). Smoking, lack of LTPA, and job dissatisfaction (RR=5.4; (95% CI 3.4, 8.5)) were associated with health-related job loss independently of health variables.

Conclusions Poor self-rated health, depression, chronic disabling musculoskeletal pain and severe problems with daily activities significantly increased the risk of leaving employment on health grounds. Tackling unhealthy behaviours and improving job satisfaction could reduce the risk of exiting the workforce for older workers with poor health.

Poster Presentation

Developing Countries

0048 THE TWO-DECADE CONTRIBUTION OF OCCUPATIONAL MEDICINE TRAINING IN THAILAND — EXPERIENCE FROM THE FOUNDATION TOWARD THE FUTURE

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For two decades, the Department of Preventive and Social Medicine, Faculty of Medicine, Chulalongkorn University has firstly served the Occupational Medicine Residency training program in Thailand. Occupational physicians have dedicated their potentials to occupational medicine works in terms of health promotion in the workplaces, prevention, and occupational medical services towards Thai working population.

At present, there are 159 Thai board-certified occupational physicians. Thai occupational physicians are presently working nationwide in both public and private healthcare practice. A number of certified occupational physicians have currently occupied various top national health leading positions. Furthermore, the occupational medicine knowledge is currently essential for Thai undergraduate medical students mentioned in the Thai Medical Council's Medical Competency Assessment Criteria.

Being awarded the postgraduate diploma of occupational medicine in Thailand can be divided into 2 categories: by

attending three-year residency training or by five-year working experience in the field of occupational medicine including an elective two-month short course. Occupational medicine is a prevailingly attractive specialty-training program among Thai physicians.

As a country which occupational medicine training program is in its childhood period, lessons learned from prior occupational medicine developed countries, updating contents and employers' demand is the key to success. In Thailand, occupational physician supply is still less than the increasing demand. Additionally, the study among the majority of Thai working populations in the informal sector, particularly in agriculture, and the advancement of current health research schemes would strengthen the training. These are future challenges influencing the progression of occupational medicine training in Thailand.

Oral Presentation

Specific Occupations

0049 A COHORT STUDY OF JOB STRESS AND FATIGUE ON HEALTH PSYCHOLOGY AMONG PROFESSIONAL DRIVERS

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Background Long-term effects of work-related factors on risk of psychiatric disorders among professional drivers have not been conclusive. A follow-up study was conducted to evaluate the individual and combined effects of stress and fatigue on drivers' risk of developing psychiatric disorders.

Methods The Taiwan Bus Driver Cohort Study (TBDCS) recruited 1650 professional drivers from a large bus company in 2005. The subjects were interviewed in person and completed two scales of job stress- the Demand-Control-Support model (DC) and Effort-Reward Imbalance model (ERI), and one job fatigue model- Swedish Occupational Fatigue Inventory (SOFI). Psychiatric diseases were the outcomes of this study, including substance abuse, anxiety, mood, and sleep disorders. Cox proportional hazards model was used to estimate the hazard ratio (HR) for psychiatric disorders.

Results Between 2006 and 2012, 108 bus drivers were diagnosed as having psychiatric disorders. Neither DC nor ERI score was associated with psychiatric disorders risk. Drivers with high SOFI (>3.5) had an elevated risk for psychiatric disorders, adjusting for age, BMI, marriage status, education, drinking, smoking, exercise, sleeping pills, bus driving experience and shift work (HR: 2.02, 95% CI: 1.37 to 2.99; p=0.025). Among psychiatric disorders, those having anxiety or mood disorders were related to high SOFI in 2005.

Conclusion Among professional drivers, occupational fatigue as indicated by high SOFI might have predicted higher risk of psychiatric disorders, especially anxiety or mood disorders.

Oral Presentation

Other

0050 WORKING TOWARDS ASSESSING OCCUPATIONAL CARCINOGENIC EXPOSURES IN AN AFRICAN LOWER AND MIDDLE INCOME COUNTRY

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Aim We aim to use the Canadian CAREX (CARcinogen EXposure) tool, adapted for local context, as a method to assess prevalence and level of exposure to priority occupational carcinogens in South Africa.

Methods The work entails first understanding the CAREX tool, and adapting it as well as reviewing its use in other countries (phase 1). Once the tool and database are prepared, we will gather publicly available data (i.e. Census data, information on chemical use, trade data, published and grey literature, expert consultation, etc.) on occupational exposure to carcinogens as well as exposure monitoring data (phase 2). We will consider all occupational health and safety legislation and its regulations regarding occupational exposure limits, and those carcinogens prioritised locally and internationally, for example by the International Agency for Research on Cancer. All data will be used to estimate the number of South African workers occupationally exposed to carcinogens (and where possible, their level of exposure) (phase 3). Ultimately, this will help guide the development of appropriate health promotion and worker protection programmes, among other resources aimed at cancer prevention (phase 4).

Results Here we will present the experience of the team during phase 1 of the project, including challenges and opportunities encountered.

Expected outcomes Key future outcomes include prevalence of exposure to occupational environmental carcinogens in the South African workplace; also proportions of the workforce in various occupational groups exposed to specific carcinogens; key occupational groups in need of protection; data and information that can be used to guide prevention programs.

Poster Presentation

Exposure Assessment

0051 ESTIMATING WORKER EXPOSURE TO SOLAR UV RADIATION IN SOUTH AFRICA BY POSSIBLE EXTENT AND OCCUPATIONAL GROUP

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