Conclusions In order to focus workplace preventive strategies, we are in the process of applying a job-exposure matrix to identify the underlying occupational respiratory hazards.

Oral Presentation

Occupational Medicine (SCOM/Modernet)

0025

CONDUCTING GLOBAL OCCUPATIONAL EPIDEMIOLOGY RESEARCH IN A CHANGING SOCIO-POLITICAL CLIMATE: CASE STUDY OF RESEARCH AMONG SHANGHAI, CHINA TEXTILE WORKERS

¹Harvey Checkoway, ²David Christiani, ³David Wegman*. ¹University of California, San Diego, Departments of Family Medicine and Public Health and Neurosciences, San Diego, California, USA; ²Harvard T.H. Chan School of Public Health, Departments of Environmental Health and Epidemiology, Boston, Massachusetts, USA; ³University of Massachusetts Lowell, Lowell, Massachusetts, USA

10.1136/oemed-2017-104636.15

There is a long and continuing legacy of epidemiologists from high income countries conducting occupational health research in low and middle income countries. Opportunities to investigate occupational hazards in relatively high exposure settings and to develop multi-country research partnerships that can lead to disease prevention globally are the main motivations for this type of research. However, it should be appreciated that changes in the cultural, economic, and political environment of the country where the research is conducted can have profound influences on the likelihood of research success. Our research groups have long histories of conducting epidemiologic investigations among textile workers in Shanghai, China. The research includes studies of multiple different cancers and parkinsonism (HC) and respiratory disorders (DCC) in relation to exposures to textile industry dusts and chemicals. Several gene/environment investigations have also been conducted. We present the historical background leading to the research, and the logistical challenges that have emerged over time as political, social, and economic conditions in Shanghai have changed. These challenges include reduced access to workplaces, reduced worker participation rates, and governmentally imposed restrictions on transporting bio-specimens outside of China. Based on our experiences, we can offer some recommendations that occupational epidemiologists in high and low/middle income countries might consider to facilitate collaborative research: being cognizant of national and regional political, social, and economic policy changes; maintaining flexibility in research protocols and budgetary allocations during the course of study conduct; and, keeping lines of communication open throughout the research design and implementation.

Poster Presentation

Dusts and Fibres

0026

DEVELOPMENT OF A NEW PREPARATION METHOD OF HUMAN LUNG TISSUES FOR ANALYSING ASBESTOS FIBRES BY TEM

¹Hyunwook Kim*, ¹Kyung-Hoon Park, ¹Kwang-Myong Jang, ²Sungwon Choi. ¹The Catholic University of Korea, Seoul, Republic of Korea; ²Occupational Lung Diseases Institute, Seoul, Republic of Korea

10.1136/oemed-2017-104636.16

Characterisation and quantification of asbestos fibres in human lung tissues are critical for assessing occupational environmental exposures and epidemiological studies of asbestos related disease. To develop a reliable preparation method of human lung tissues for TEM-EDXA analysis, three conventional preparation methods and a new method were compared. Tissue preparation methods compared were; 5% NaOCl(digestion I), 40% KOH(digestion II), a low temperature plasma(ashing), and the new proposed method of 30% H₂O₂ digestion followed by a low temperature plasma (sequential application of the digestion and ashing). After treatment, aliquot of samples were filtered and filters were carbon coated and jaffe washed for TEM analysis. A total of 90 human tissues were tested for comparison.

Results showed that the digestion I method could not detect asbestos fibres because of using limited amount of aliquot sample for analysis. For the digestion II method, organic materials were not completely removed which obscured the images of the asbestos fibres. For the ashing method, clear background images were obtained but some tremolite asbestos fibres were found to be damaged, either bent or broken. Using the proposed method, asbestos fibres were detected clearly and no fibres were damaged.

In summary, we proposed a new preparation method for treating asbestos fibres in the human lung tissues for TEM analysis. Not only showed it a superior quality for asbestos fibres detection but also no damages on asbestos fibres observed. Therefore, we are confident that it can be utilised for preparing human lung tissues for TEM analysis.

Poster Presentation

Musculoskeletal

0027

MUSCULOSKELETAL DISORDER SURVEY OF CAREGIVERS IN DISABILITY SERVICES CENTRES

Chihwei Lu*, EW Yeh. Chung Yuan Christian University, Taoyuan City, Taiwan

10.1136/oemed-2017-104636.17

In a disability service centre, the caregivers have serviced patients turning over, hanging diaper, taking a shower, feeding on and other activities and if they proceed under unnatural postures and overloading for a long time easily causes themselves musculoskeletal (MSD) injuries. The goal of this study is to recognise and record the potential factors of MDS injuries of caregivers in disability service center.

The used methods were conducted mainly by questionnaires (Nordic Musculoskeletal Questionnaire (NMQ)), and ergonomics checklists (Musculoskeletal Disorders checklist (MSDs) and Baseline Risk Identification of Ergonomic Factors checklist (BRIEF) by observation and record to discover the other damages of such operations. Research results showed there existed a significant correlation ($p < 0.05$) between the musculoskeletal injuries with the used hand, daily average working hours, and whether rest was taken in working hours.

Poster Presentation

Cardiovascular Disease

0028 JOB STRESS AND GLYCEMIC LEVELS: THE ROLE OF GENDER AND EDUCATIONAL LEVEL IN THE BRAZILIAN LONGITUDINAL STUDY OF ADULT HEALTH (ELSA-BRASIL)

¹Raila Santos*, ¹Fabiola Eto, ²Rosane Griep, ¹Enirtes Melo. ¹National School of Public Health – Fundacao Oswaldo Cruz, Rio de Janeiro – RJ, Brazil; ²Oswaldo Cruz Institute – Oswaldo Cruz Foundation, Rio de Janeiro – RJ, Brazil

10.1136/oemed-2017-104636.18

This study intends to evaluate the association between psychosocial stress at work according to the model Demand-Control and changes in glycemic levels, investigating the role of gender and educational level.

The Brazilian Longitudinal Study of Adult Health (ELSA - Brasil) is a multicenter study whose. In this transversal cut, 11,922 active workers were selected at the baseline. Job strain was evaluated through the Brazilian version of the Swedish Demand-Control-Support Questionnaire (DCSQ). Glycemic levels were assessed through glycosylated haemoglobin (HbA1c). We calculated odds ratio (OR) with respective 95% of confidence intervals (CI) and multiplicative interactions for education level. The study was approved by the National Research Ethics Commission.

For men with low education, the low skill discretion is strongly associated with altered glycemia (OR 1.91, 95% CI 1.56–2.25). Equivalent pattern is observed among women of low education (OR 1.51, 95% CI 1.18–1.9). Likewise, low decision authority is associated with altered glycemia among men of low education (OR 1.62, 95% CI 1.29–1.95). Among women of low educational level, there is an association between low decision authority at work and intermediate glycemic levels (OR 1.19, 95% CI 1.01–1.37) and altered (OR 1.65, 95% CI 1.28–2.02).

The relationship between job strain and changes in glycemic levels was mediated by education level that stands out as a determining factor for glycemic changes at intermediate (pre-diabetes) and elevated (diabetes) levels, for both men and women.

Poster Presentation

Developing Countries

0029 TREND STUDY OF METABOLIC SYNDROME IN A WORKING POPULATION FROM A DEVELOPING NATION TO CONTROL PREVALENCE OF NON-COMMUNICABLE DISEASES

Rajat Kumar Saha. Hero MotCorp Ltd, Dharuhera, Haryana, India

10.1136/oemed-2017-104636.19

Introduction Non-communicable diseases play a vital role in the determination of overall health status of an individual. Metabolic syndrome, as per WHO criteria is associated with obesity as a major pre-determinant risk factor and other comorbidities viz. diabetes mellitus, which increases the risk of coronary artery disease.

Aim/Objective To analyse its trend in a working population w.r.t some important defined variables, to correlate the prevalence over a few years and to justify need for control measures.

Methodology The study was conducted on executives of an automobile manufacturing unit; data was collected through health check reports; analysed by cross sectional study from last 6 years' data. Total data sample strength was 700 approx. 4 sample groups were, thus selected from 2009–10 to 2015–16. Correlation regression and ANOVA were used through SPSS v16. Study was pre-approved ethically and informed consent for the study was received.

Results The prevalence of MS, {p-hat (p)} over the years varied age group wise with p increasing in 2013–14 and 2015–16 data from 0.017 to 0.111 and 0.052 to 0.084 respectively. Correlation between BMI and SBP showed $r=0.093$ and $r^2=0.009$. Similarly, BMI vs DBP, BMI vs FBS and BMI vs TG- showed positive correlation. Comparison of BMI means through ANOVA revealed statistically significant p value while comparing data set of 2011–12 with 2013–14 and also between 2013–14 and 2015–16.

Conclusion The study justified the need for application of preventive measures in the form of health education, promotion of health awareness and regular health check-ups.

Oral Presentation

Occupational Medicine (SCOM/Modernet)

0030 OPPORTUNITIES FOR RECOVERY AT WORK AND EXCELLENT WORK ABILITY – A CROSS-SECTIONAL POPULATION STUDY AMONG YOUNG WORKERS

¹Maria Boström*, ²Judith K Sluiter, ¹Mats Hagberg, ¹Anna Grimby-Ekman. ¹Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden; ²Academic Medical Centre, Coronal Institute of Occupational Health, Amsterdam, The Netherlands

10.1136/oemed-2017-104636.20

Background The aim was to examine cross-sectional associations between opportunities for recovery at work and excellent work ability among young workers and specifically for young workers with high work demands.