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

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

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 governmental 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

Hyunwook Kim, Kyung-Hoon Park, Sang-Woon Choi. The Catholic University of Korea, Seoul, Republic of Korea; Occupational Lung Diseases Institute, Seoul, Republic of Korea

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

Characterisation and quantification of musculoskeletal disorder occurrence among caregivers in disability services centres. To determine the prevalence of musculoskeletal disorders among caregivers, and to assess the potential risk factors associated with the occurrence of these disorders, a survey was conducted among caregivers in disability services centres. The survey included questions on demographics, job-related factors, and health outcomes. The results showed a high prevalence of musculoskeletal disorders among caregivers, with factors such as poor ergonomics and long working hours being identified as potential risk factors.