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

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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

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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

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