Respiratory effects/Diseases

O-214 SILICOSIS IN ARTIFICIAL STONE BENCHTOP WORKERS: A WARNING FROM AUSTRALIA

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Introduction The stone benchtop industry is a multi-billion dollar sector worldwide. High-silica content artificial stone has rapidly become a very popular material used to produce benchtops in many countries, including Australia. The Victorian Silica-associated Disease Registry was developed to record incident cases of silicosis occurring in Victoria, Australia.

Material and Methods Since mid-2019 cases of silicosis have been voluntarily reported by respiratory physicians to the Registry. During the same period a protocolised, government funded screening programme for stone benchtop workers has been in operation. The screening protocol includes high resolution CT chest imaging, respiratory function tests and a panel of blood tests for at risk workers.

Results Two hundred and two stone benchtop industry workers with silicosis were reported over a 30 month period. Twenty three percent had complicated silicosis. Seventy percent were male with a median age of 42 years (interquartile range 35–50), and 46% were born overseas in an Asian country. The median duration of work in the benchtop industry was 13 years for those with simple silicosis and 15 years for complicated silicosis. Ninety-six percent worked mostly in a factory environment and 18% were installers of benchtops. Respiratory function test parameters were significantly lower and median serum angiotensin converting enzyme level higher for complicated compared to simple silicosis. Anti-nuclear antibodies were detectable (titre ≥ 1:80) for 32% with silicosis.

Conclusions There has been a major outbreak of silicosis in the stone benchtop industry in Victoria, Australia. Considering the rapid increase in the use of high silica content artificial stone internationally, urgent action is required to ensure the occupational health and safety of workers in this industry.

Exposure assessment

O-22 PRESCHOOL TEACHERS’ WORKING ENVIRONMENTAL CONDITIONS – A PRELIMINARY SURVEY OF INDOOR AIR QUALITY IN NORTH TAIWAN

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Introduction Preschool teachers are special population comparing to other teachers because they almost have no individual time to leave classrooms except when bringing children to play outside. Therefore, this study aims to explore environmental conditions and examine the relationships between indoor air quality (IAQ) and environmental conditions.

Material and Methods IAQ data and environmental conditions were collected in three different types of preschools by portable IAQ monitor and activity log. Description of classroom was recorded by questionnaire including type of preschool (building with windows or not), location of building (beside street or not), and age of students. Portable IAQ monitor was used to collect data of PM10, PM2.5–10, PM2.5, Total VOCs, HCHO as well as CO, CO2, temperature, and relative humidity. Activity log was collected daily environmental conditions including type of activity (static class, dynamic class, snack/lunch time, nap time, or outside class), type of ventilation (natural or air conditioner), and occupant density. Random Forest Models were used to examine the relationships between each indoor pollutants (PM10, PM2.5–10, PM2.5, Total VOCs, and HCHO) and environmental conditions.

Results The preliminary result shows that type of preschool, age of students, type of ventilation, type of activity, and occupant density were the top 5 factors associated with IAQ. It is recommended that the indoor lectures and outdoor activities can be arranged alternately in the school daily schedules to allow sufficient air exchange of the classrooms.

Work organisation, including precarious work/Working conditions

O-223 OCCUPATIONAL HEALTH & SAFETY SERVICES IN INFORMAL SECTORS IN INDIA: A LITERATURE REVIEW

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Introduction Most of our workforce in India (92%) are working in informal sectors, while providing OHS services to them is a legal framework exclusion. This study is a literature review of existing OHS service provision in informal sector and identify opportunities to address them.

Methods This is a narrative review of the studies, which reported provision any occupational health services in informal sectors of India. A literature review was done by general web search using ‘google scholar’; specific website search using ‘cochrane, pubmed, academia, science direct, mendeley’ etc; government official websites and company official websites. The review included government reports, company reports, original articles, editorials and review articles. A total of 147 studies and reports were reviewed which mentioned key words ‘occupational health’, ‘informal sector’ and ‘India’.

Results While 99% literature mentioned about at least one of the OH services provision in informal sector, only 13% actually quantified any service provision. No literature reported active surveillance and notification of the occupational health hazards and diseases. Employer gave medical insurance to 2%-10% employees of informal sector. Only one original article reported use of PPEs in fishery by 1.2% employees. A few project-based OHS services provision reported. A bill for OHS code passed in parliament in 2020 again excluded informal sector by not defining beneficiaries.