Two studies reported Basic Occupational Health Services including Primary health care system as a promising strategy to fulfill the gaps in areas of surveillance, prevention and treatment of OH hazards and health issues.

Conclusion Occupational Health service provision even though excludes current legal framework in informal sectors, few efforts are done towards recognizing and fulfilling this gap. The solidification of OHS can be done by exploring its integration with primary health care set up of India in existing scenario.

Respiratory effects/Diseases

**O-227** EFFECT OF OCCUPATIONAL EXPOSURE TO VOLATILE ORGANIC COMPounds AND INORGANic DUSTS ON RESPIRATORY HEALTH

Pricali Johnson, Lavanya Sekhar, Durai Santhanan, Vidhya Venugopal. 1Professor and Head Department of Physiology Sri Ramachandra Medical College and Research Institute SRHIER (DU) Porur, Chennai, India; 2Tutor, Department of Physiology, Sri Ramachandra Medical College and Research Institute, SRHIER (DU), India; 3Project Manager, Department of Environmental Health Engineering, Faculty of Public Health, SRHIER (DU), India; 4Professor and Certified Industrial Hygienist (BOHS), Department of Environmental Health Engineering, Faculty of Public Health, SRHIER (DU), India

10.1136/OEM-2023-EPICOH.54

Introduction Worldwide, workplace exposure to inorganic dusts and volatile organic compounds (VOCs) have detrimental effect on respiratory health and is a major public health challenge among industrial workers. The characteristic of the respiratory disease outcome is influenced by nature of the inorganic dust or VOCs, dose, duration of exposure and genetic factors. Hence, this study was conducted to evaluate the impact of occupational exposure to varied air pollutants among workers in unorganised and organised industrial sectors.

Methodology This cross-sectional study was conducted among 150 workers of age within 30–60 years after getting approval from Institutional Ethics Committee and authorities. Subjects with known history of tuberculosis, malignancy, and recent surgery were excluded. Exposure assessment was obtained using a validated questionnaire. The airborne concentration of top 10 VOCs were measured using gas chromatography. Respirable dust and total dust monitoring were carried out with area air samplers as per NIOSH guidelines. Pulmonary function parameters were measured using spirometry.

Results This study showed that cumulative VOC exposure index of construction painters was 5.73ppm. Total and respirable dust concentration ranged from 0.1 – 13.7 mg/m3 and 0.07 – 5.2 mg/m3 respectively. The mean Forced Expiratory Volume and peak expiratory flow rate of industry workers were 2.69 ±0.48L and 5.89 ± 1.7L/s respectively. The chief lung function parameters were lower in high exposure (above threshold limit) group than the low exposure group in steel industry.

Conclusion This study demonstrated a decline in the pulmonary function parameters among steel industrial workers than the painters exposed to VOCs. However, the strength of association varied with age, region and duration of exposure. The findings of this study has provided a clear insight about the varied health impacts of VOCs and industrial dusts which would pave way for creating awareness and developing appropriate protective intervention programs.

Noise

**O-23** PREVALENCE AND FACTORS ASSOCIATED WITH OCCUPATIONAL NOISE INDUCED HEARING LOSS AMONG EMPLOYEES OF AN INTERNATIONAL AIRPORT OF WEST BENGAL, INDIA

Alapan Bandyopadhyay, Abhijit Mukherjee, Arup Jyoti Rout, Gautam Dhar. 1Senior Resident, Department of Community Medicine, North Bengal Medical College and Hospital, India; 2Associate Professor, Department of Community Medicine, NRS Medical College, Kolkata, India; 3Assistant Professor, Department of Community Medicine, North Bengal Medical College and Hospital, India; 4Professor, Department of Community Medicine, Bankura Sammilani Medical College and Hospital, India

10.1136/OEM-2023-EPICOH.55

Introduction Occupational noise induced hearing loss (ONIHL) is the commonest occupational disease globally, affecting workers spanning a wide range of industries. However, literature on ONIHL in workers of airports in developing countries is scarce. The current study tries to address this gap by assessing the burden of ONIHL and its associated factors among employees working at an international airport of Eastern India.

Methodology A cross-sectional study was conducted from April 2020 to March 2022 among 212 airport employees divided into 3 groups based on their area of employment, viz. airfield (97), terminal (89), and administration (26). All employees had been working in the airport for >1 year. Noise induced hearing loss among the employees was measured using a portable audiometer, and data regarding associated factors collected using a questionnaire.

Results The mean age was 34.1±9.2 years, 89.2% were men. Most participants were from the upper and middle socioeconomic classes. 50% of the employees wore hearing protection equipment when working, with earplugs being the most common. The prevalence of ONIHL was found to be 7.6%, with the highest among employees working in the terminal area (8.9%). Only the non-use of hearing protection equipment was significantly associated with the development of ONIHL (p-value 0.003). No significant association was observed for age, sex, education, years of work, area of employment and number of primary working stations.

Conclusion ONIHL was found to be prevalent among employees working at the airport, and focus should be on ensuring use of protective equipment to combat the problem.

Occupational epidemiology in unorganised sectors: agriculture, construction, service sectors

**O-235** CLIMATE CHANGE IMPACTS ON OUTDOOR WORKERS – PRESENTING EPIDEMIOLOGICAL EVIDENCE FROM AGRICULTURE AND CONSTRUCTION SECTORS

Vidhya Venugopal. Department of Environmental Engineering, Faculty of Public Health, SRHIER, Porur, Chennai, India

10.1136/OEM-2023-EPICOH.56

Introduction Climate change and extreme heat events threaten the global work force. Outdoor workers are particularly at