Results A total of 27 systematic reviews were included comprising 1242 studies and 486 potential occupational sensitizing exposures. Three systematic reviews were rated as having high quality, 7 moderate quality, and 17 low quality. We found strong evidence for the main group of wood dusts and moderate evidence for the main groups of mites and fish. For subgroups/specific exposures, strong evidence was found for toluene diisocyanates, Aspergillus, Cladosporium, Penicillium, and work tasks involving exposure to laboratory animals, whereas moderate evidence was found for another 52 subgroups/specific exposures. Conclusion In systematic reviews we identified hundreds of potential occupational sensitizing exposures suspected to cause asthma. Strong evidence was found for wood dust in general and for toluene diisocyanates, Aspergillus, Cladosporium, Penicillium, and work tasks involving exposure to laboratory animals. However, several well establishes sensitizers (e.g. enzymes, house dust mites, allergens from pets) have not or rarely been included in systematic reviews of occupational exposures, which is a limitation of the overview approach.

O-34 RESPIRABLE DUST EXPOSURE AND LUNG FUNCTION PARAMETERS FOR NON-SMOKER METROPOLITAN BUS DRIVERS OF GUJARAT (INDIA)

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Introduction The ambient air quality of Indian metropolitan cities is deteriorating. And, the vehicular emissions directly impact bus drivers of local transport services. This occupational exposure aggravates the risk of respiratory diseases.

Materials and Method In the current cross-sectional study, 172 non-smoker drivers using clean energy for domestic usage were randomly selected from the municipal transport service department and enrolled after written consent. We collected relevant sociodemographic, occupational and clinical history (using a modified ATS-DLD-78A respiratory questionnaire) in a standardized questionnaire format. We also evaluated the drivers’ lung function parameters per the American Thoracic Society/European Respiratory Society guidelines. We compared the pulmonary function parameters of the individual drivers with their respective Indian reference standards. For a subset of representative drivers, we measured personal exposure to respirable dust during duty hours with DustTrakTM DRX8533, a portable aerosol monitor Statistical analysis was performed with SPSS version 26.0. Institutional IEC approval was received prior to the initiation of the study.

Results During duty shift, the eight-hour time-weighted average respirable dust exposure for the individual driver was 989.5 μg/m³. Prevalence of cough and dyspnoea were 19.8% and 22.1% among drivers, respectively. About one in five drivers (22%) suffered compromised pulmonary functions, of which 17% were obstructive, and 5% were restrictive. In comparison with the reference population, average values of Forced Expiratory Volume in the first second (FEV1) and Functional Vital Capacity (FVC) significantly reduced by 149 ml (5.3%) and 127 (3.5%), respectively. While controlling for age and other confounders, there were significant negative associations between pulmonary function parameters and job duration. That is, with increasing years of work, there was a decline in pulmonary function.

Conclusion There is a risk of compromised lung function parameters among metropolitan bus drivers due to relatively high occupational exposure to respirable dust. Measures are required to prevent pulmonary compromise among bus drivers.

Irritants and allergens

O-341 OCCUPATIONAL HEALTH PROBLEM ASSESSMENT OF WORKERS INVOLVED IN COTTON HARVESTING OF HARYANA

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Introduction Cotton is one of the important cash crops of India and plays a significant role in agricultural and industrial economy. India is world’s second-largest cotton grower. It benefits textile industry and creates jobs in other fields. In the era of automation in the agriculture sector, India continues to practice manual cotton picking to preserve the quality of the fiber. Felling, delimbing, tracing, manual extraction and manual loading are some cotton harvesting techniques which have been reported to cause Occupational hazards such as repetitive strain injuries and hand skin related issues. This study focuses on determining skin related occupational hazards among cotton pickers.

Method This study was conducted in the Haryana state district, Hisar. For the study, seventy-three (73) farmers were considered. Age groups lies between 18-62 years and the experience of farmers were categorized into three groups <8 years, 9–15 years and >16 years. Interview was conducted among the farmers to identify the work-related problems. Modified Nordic Occupational skin questionnaire (MNOSQ) used to identify the skin-related issues and modified Boston questionnaire (MBQ) to identify the hand-related issues among farmers.

Results Symptoms like allergies, and lichenification on skin were highly prevalent among the workers (p<0.001) those with experience <3 years and were more likely to report rashes, allergies on skin (p < 0.001). According to the MBQ questionnaire, workers with experience >12 years were more likely to report hand tremors (p < 0.001). Through interviews conducted farmers reported that physical exertion is more in 8 to 9 long working hours.

Conclusion This study supports the evidence that the cotton farmers are at higher risks of developing skin infections and hand related problems. This study suggests immediate ergonomic intervention for reducing the occupational health hazards among the cotton farmers.