Web of Science (WOS), and PsycINFO, to identify articles published between January 2020 and October 2022. During the COVID-19 pandemic, ICU consultants’ experiences and perspectives on occupational safety and health as a primary outcome are examined.

Results The full texts 61 articles were then considered; 25 articles met the inclusion criteria, which include English language full texts of available articles, qualitative studies, and ICU consultants. Eight main themes emerged from the synthesis: COVID-19 infection, psychosocial distress, moral distress, physical distress, workplace violence, social stigma, structural and organisational issues, and risk communication. Phenomenological studies make up the majority of the qualitative research, followed by grounded theory studies and case studies.

Conclusions The global impact of the COVID-19 pandemic on intensive care services has been catastrophic. The key to maintaining ICU services during a pandemic is preparedness, adaptation, and mitigation. Consequently, it is essential to acknowledge the ICU consultant’s perspective in order to mitigate all potential ICU service disruptions. However, anticipating action for a variety of issues or challenges is best explored through a qualitative interpretive description study directed at ICU consultants with on-the-ground experience.

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

Determinants of e-waste workers’ intention to wear respiratory protective equipment at work in Hong Kong

Introduction E-waste workers in Hong Kong are exposed to more chemicals because more e-waste needs to be handled locally. However, studies suggested that many e-waste workers are unwilling to wear respiratory protective equipment (RPE) for different reasons. This study aimed to identify the determinants of e-waste workers’ intention to wear RPE in Hong Kong.

Material and Methods We recruited 109 e-waste workers from June 2021 to September 2022. A workplace RPE intention scale (WRPIEs) was developed based on validated Robertson’s RPE behavior intention model and Hong Kong Occupational Safety Culture Index. The WRPIEs was consolidated by exploratory factor analysis and further enhanced by confirmatory factor analysis. Multivariate linear regression was used to test the association between the identified domain factors and the intention to use RPE at work.

Results Most of the participants were aged over 40 years (76%), had middle school or below educational degrees (83%), wore RPE (94%) at work, and had increased time of wearing RPE after the Covid-19 pandemic (69%). Four domain factors (containing 17 manifest variables) were confirmed, including ‘subjective norms (SN)’, ‘supportive working conditions (SWC)’, ‘autonomy’, and ‘occupational safety and health’. The enhanced WRPIEs had good indices in internal consistency reliability (Cronbach’s α ranged: 0.78–0.94), good composite reliability (range: 0.79–0.95), and model fit (SRMR=0.05, RMSEA=0.03, CFI=0.99). Among the identified domain factors, SN (β=0.36) and SWC (β=0.30) significantly increased e-waste workers’ intention to wear RPE at the workplace.

Conclusions This newly validated WRPIEs scale can help capture Chinese e-waste workers’ intention to wear RPE. Results from this study also suggested that various stakeholders could enhance SN and SWC to facilitate workers’ willingness to wear PPE. (Acknowledgements: GFR/RGC-165056/S3 & VCDFFIII-136366853. Ethics approval: CREC 2020.039; *shelley@cuhk.edu.hk)
duration of outdoor work for all ISCO-88(COM) occupations that were included with season, duration of measurements and latitude as fixed effects in a mixed effects model. Study and occupation were included as random effects. The dependent variable was log-transformed SED harmonised (dosimeter type and location on the body) and weighted by the occupation exposure probability.

Results Modelled workday solar UVR level showed a monotonic increase with increasing expert rating. β-coefficients were 0.62 SED (95% CI -0.51:1.75) for 1 hour; 0.80 SED (95% CI -0.28:1.88) for 2–5 hours and 1.20 SED (95% CI 0.12:2.28) for >5 hours, compared to 0 hours. An eight-fold ratio between the highest and the lowest exposed occupations was seen. Our JEM estimates have highest exposure among farm-hands, concrete placers and related trades while waiters, wood-processing-plant operators, and several white collar occupations have the lowest exposure.

Conclusion This is the first general population quantitative JEM for occupational solar UVR exposure including personal measurements for investigation of exposure-response relations in epidemiological studies of health effects potentially associated with occupational UVR exposure.

O-211 OCCUPATIONAL EXPOSURE OF HAIRDRESSERS TO AIRBORNE HAZARDOUS CHEMICALS: A SCOPING REVIEW

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Introduction Hairdressers are at increased risk of adverse health effects due to exposure to hazardous chemicals released from hair care products during hairdressing activities. Safety assessments of hair products consider only consumer exposure, however exposure for professional hairdressers might be substantially higher. In this study we aimed to review research data on inhalation exposures of professional hairdressers.

Materials & Methods A systematic search of studies between 1 January 2000 and 30 April 2021 was performed in Medline, Embase, Web of Science and in Cochrane registry, toxicological-dossiers of the Scientific Committee on Consumer Safety (SCCS) of the European Commission as well as the German MAK Commission. We included the studies which reported quantitative data on airborne concentrations of chemicals in the hairdresser’s workplace.

Results & Conclusions In total, 23 studies, performed in 14 countries reported air concentrations of chemicals measured in the hair salons by using environmental or personal sampling. The most frequently measured chemicals were formaldehyde (n = 8), ammonia (n = 5), total volatile organic compounds (TVOC) (n = 5), and toluene (n = 4). More than fifty other chemicals including various aromatic and aliphatic organic solvents, hydrogen peroxide, persulfate, and particulate matter were measured in one to three studies. The air concentrations of chemicals were dependent on salon characteristics such as ventilation and the number of customers but also on used products that are often country- or client-specific. Several studies reported the air concentrations of formaldehyde, ammonia, and TVOC which exceeded OEL or guidance values.

This review study revealed that hairdressers are exposed to a wide spectrum of hazardous chemicals, often simultaneously. Therefore, occupational exposure should be taken into account by safety regulations for hair care products.

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

O-213 OBSTRUCTIVE LUNG DISEASE ASSOCIATED WITH OCCUPATIONAL AND ENVIRONMENTAL EXPOSURES AMONG SMALL-SCALE TOBACCO FARMERS IN MALAWI

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Introduction Nicotine and pesticide exposure in agricultural settings have been linked to the development of chronic respiratory disease in workers. The aim of this study was to determine the prevalence of obstructive lung disease and its relationship to concurrent nicotine and pesticide exposure among small-scale tobacco farmers in Malawi.

Material and Methods A cross-sectional study was conducted enrolling 279 workers in flue-cured tobacco farms in Zomba, Malawi. Health outcomes were assessed using a standardised European Community Respiratory Health Survey II questionnaire. Spirometry testing was conducted during the working day.

Results The average age of participants was 37.7 years with a greater proportion (68%) being male. The prevalence of work-related ocular nasal symptoms, chronic bronchitis, and work-related chest symptoms was 20%, 17%, and 29%, respectively. Airflow limitation measured as FEV1/FVC <70% was found in 8% of workers. Self-reported exposure to pesticide was between 72% (spraying) and 83% (field re-entry after spraying). The prevalence of recent green tobacco sickness (proxy for nicotine exposure) was 26%. Tasks linked to nicotine exposure, such as harvesting and curing, were significantly associated with respiratory symptoms. Work involving pesticide application was associated with an increased risk of respiratory symptoms. Duration of pesticide exposure was also associated with obstructive impairment FEV1/FVC<LLN and FEV1/FVC<70%.

Conclusions This study demonstrated that tobacco farmers in Malawi have a higher prevalence of respiratory symptoms and airflow limitation due to obstructive lung disease when compared to the general population. This could be attributable to nicotine or pesticide exposure in small scale tobacco farming. The implementation of occupational health and safety measures to mitigate these exposures may play an important role in modifying the risk of obstructive lung disease in this population.