

livestock in both directions (positive with cattle breeding and inverse with poultry), although based on small numbers for some activities.

Burden of Disease

RF-184 ESTIMATING THE BURDEN OF CARDIOVASCULAR DISEASES AND DEPRESSION ATTRIBUTABLE TO PSYCHOSOCIAL WORK EXPOSURES IN 28 EUROPEAN UNION COUNTRIES

¹Hélène Sultan-Taieb, Tania Villeneuve, Jean-François Chastang, Isabelle Niedhammer.
¹Université du Québec à Montréal (UQAM), Canada

10.1136/OEM-2021-EPI.357

Objectives This study aimed to estimate the annual burden of cardiovascular diseases and depression attributable to psychosocial work exposures in 28 EU countries (EU28) in 2015.

Methods This study was based on up-to-date estimates of the fractions of cardiovascular diseases and depression attributable to five psychosocial work exposures in EU28: job strain, effort-reward imbalance, job insecurity, long working hours, and workplace bullying. The outcomes included: coronary/ ischemic heart diseases (CHD), stroke, atrial fibrillation, peripheral artery disease, and depression. Burden indicators were prevalent cases, deaths, Years of Life Lost, Years of Life Lost due to Disability, and Disability Adjusted Life Years (DALY). Health outcome data were extracted from the Global Health Data Exchange database, provided by the Institute for Health Metrics and Evaluation. To take into account differences in population sizes between countries, we calculated the prevalence rate, the mortality rate, and the DALY rate per 100,000 workers for each health outcome attributable to each exposure and tested the differences between countries using the Wald test. Results were plotted on maps.

Results The overall burden of CHD attributable to all studied psychosocial work exposures in EU28 was 181,870 to 415,368 prevalent cases, 3,759 to 8,586 deaths, and 129,280 to 295,259 DALYs in 2015. The overall burden of depression was 1,715,026 to 3,645,262 prevalent cases, 8,471 to 18,005 deaths, and 651,665 to 1,385,104 DALYs. Differences between countries for DALY rates per 100,000 workers were significant for all exposures and health outcomes. The highest burdens in DALY rate corresponded to depression attributable to job strain (680 DALY rate per 100,000 workers in Lithuania, 418 in Hungary) and to depression attributable to workplace bullying (371 in France).

Conclusion Such results are necessary as decision tools for decision-makers and policy makers (governments, employers, trade unions) when defining public health priorities and preventive strategies in European countries regarding work stress prevention.

RF-223 CAUSE-SPECIFIC MORTALITY AND SITE-SPECIFIC CANCER INCIDENCE AMONG GREENSPACE WORKERS IN THE AGRICAN COHORT STUDY.

¹Lucie De Graaf, Madar Talibov, Mathilde Boulanger, Mathilde Bureau, Elsa Robelot, Pierre Lebaillly, Isabelle Baldi. ¹INSERM 1219 – Bordeaux Population Health, France

10.1136/OEM-2021-EPI.358

Introduction Workers in the greenspace industry are exposed to a range of occupational hazards including pesticides. Occupational exposure to pesticides and their health effects have been mainly studied among farmers while data on greenspace workers remain scarce. Exposures in greenspaces are not similar to those in farming: there are differences in applied substances, equipment, application scenario, general environment etc. Studying the impact of pesticides highly used in this specific population provides relevant data on some specific substances like total herbicides (glyphosate, paraquat, etc.).

Objectives To analyse the causes of death and the incidence of main cancers among greenspace workers.

Methods Within the AGRICAN cohort - that enrolled more than 181,000 workers affiliated to the health insurance for agriculture in 2005–2007 in 11 French areas – we defined a sub-cohort of 6,247 workers from the greenspace industry. We run survival analyses (Cox-proportional hazards models) on main causes of death and on cancer incidence from enrolment to the end of 2015. Comparisons with farmers and non-agricultural workers have been performed.

Results Overall mortality among greenspace workers was comparable to that of farmers and non-agricultural workers. However, greenspace workers' overall cancer incidence (n=446) was higher than among farmers (HR=1.15 [1.04–1.27]). Compared to farmers, increased risks have been found in men for: skin melanoma (HR=2.15 [1.33–3.47]), prostate (HR=1.21 [1.02–1.44]), testicular (HR=3.98 [1.50–10.58]), and thyroid (HR=2.84 [1.60–6.41]) cancers; and in women for breast cancer (HR=1.71 [1.17–2.50]). Elevated risks were also found for cancers of the larynx and bladder and sarcomas. These associations have been found among pesticide applicators as well.

Conclusion The differences in cancer incidence between greenspace workers and farmers could suggest the impacts of occupational risks specific to this population. Additional research is underway to better characterize their exposures and will be used in further analyses.

RF-255 OCCUPATIONAL FACTORS RELATED TO MUSCULOSKELETAL DISEASES (MSD) AMONG NURSING AIDES IN NURSING HOME IN TAIWAN

¹Isabella Yu-Ju Hung, Yue Leon Guo, Kuan-Han Lin, Judith Shu-Chu Shiao. ¹Chung Hua University of Medical Technology, Taiwan

10.1136/OEM-2021-EPI.359

Introduction The percentage of elderly citizens is continually rising due to improved living conditions and health care system around the world. Nursing aides (NAs) were reported at high risk of musculoskeletal disorders (MSDs) in several studies.

Objective The aim of the study was to investigate the association between occupational risk factors in the workplace and MSD among NAs in nursing home.

Methods A cross-sectional study was conducted among female NAs from nursing home. A self-administered questionnaire, including Nordic questionnaire was used to collect data. The association between work-related risk factors and MSDs were analysed by multiple logistic regression.

Results A total of 329 nursing aides were included in the analysis of the study. The average age and tenure of NAs

were 44.3 years old and 7.0 years. Shoulder (77.9%) was the most commonly reported affected area, followed by the lower back (75.7%), neck (69.2%), wrist and hand (62.5%), ankle (59.1%), elbow (57.2%), knee (56.3%) and thigh (46.2%). In work-related risk factors, 60% NAs reported more than 8 hours standing per day, and 34.3% NAs had to lifted over 10 Kg heavy more than 20 times a day. 37.7% NAs reported that they were injured or had disease from this job in this year. The presence of shoulder pain was significantly related to tenure (OR 2.3), awkward postures (OR 2.5), inadequate height of work desk/chair (OR 3.2). Low back pain was related to awkward postures (OR 2.7) and standing hours per day (OR 4.7). Neck pain was related to awkward postures (OR 2.3) and inadequate height of work desk/chair (OR 3.1). Wrist and hand pain was related to awkward postures (OR 3.7).

Conclusion The prevalence of LBP among NAs in Taiwan is high. Any MSD reduction interventions that aim to improve ergonomic and work environments for NAs should take this information into consideration.

RF-424 SICKNESS ABSENCE AND MECHANICAL AND PSYCHOSOCIAL WORK EXPOSURES ACROSS OCCUPATIONAL GROUPS IN NORWAY

¹Karina Udem, Ingrid Sivesind Mehlum, Svetlana Solovieva, Therese N Hanvold, Petter Kristensen, Taina Leinonen. ¹National Institute of Occupational Health, Norway

10.1136/OEM-2021-EPI.360

Introduction The working environment may contribute strongly to the development and manifestation of health problems leading to reduced work participation. To maintain high workforce participation, it is important to target workplace interventions to occupational groups at high risk of sickness absence (SA).

Objectives To identify occupational groups with excessive SA and develop occupation-specific knowledge about the contribution of work-related factors to SA and the potential for prevention.

Methods We performed a register-based study on employees aged 25–59 in 2013 (N=1,331,547) and calculated gender- and occupation-specific (4-digit ISCO codes) one-year incidence of all-cause and cause-specific SA. We selected the following job exposures: heavy physical work, high job demands and low job control, assessed by a Job Exposure Matrix and compared the gender-specific risk of SA among exposed workers to non-exposed workers. Lastly, we compared the gender-specific risk of SA in ten occupational groups to professionals (reference), controlling for (i) age and (ii) age and job exposures. We used Cox proportional hazards model for all analyses.

Results Workers exposed to heavy physical work or low job control had higher risk of SA (RR=3.65; 95% CI 3.54–3.78 and RR=1.41; 95% CI 1.39–1.42, respectively). The ten selected occupational groups all had higher risk of SA, relative to professionals. The relative risk was particularly high among male drivers and mobile plant operators (RR=2.57; 95% CI 2.49–2.64) and female personal care workers (RR=1.43; 95% CI 1.41–1.45). Adjusting for job exposures resulted in attenuation of the RR estimates, most for male building and related trade workers (37% attenuation) and female personal care workers (84%).

Conclusion We identified occupational groups with high risk of SA and the selected job exposures. Excess risk of SA in ten selected occupational groups, as compared to professionals, could partly be attributed to the job exposures.

RF-4 INTER-RATER RELIABILITY OF OCCUPATIONAL EXPOSURE ASSESSMENT IN A CASE-CONTROL STUDY

¹E Batisse, F Labrèche, MS Goldberg, R Pasquet, J Lavoué, J Siemiatycki, ME Parent, V Ho. ¹Centre de recherche du Centre hospitalier de l'Université de Montréal, Canada

10.1136/OEM-2021-EPI.361

Objective To estimate inter-rater reliability of expert assessment of occupational exposures.

Methods A population-based case-control study conducted in Montreal was used to obtain detailed information on lifetime occupational histories. Two trained industrial hygienists assessed the 4,362 reported jobs to assign exposures using a checklist of 258 agents. The jobs were divided between the two experts for evaluation (initial coding); then, each reviewed the others' to reach a consensus. A job was considered 'exposed' to an agent if that agent was present at levels above the non-occupational environment. Experts rated exposure for each job/substance combination according to confidence that the exposure occurred (possible, probable, definite), and to concentration (low, medium, high), where, low and high represented the extremes in the range of levels encountered in a work environment. An inter-rater reliability sub-study was conducted among a random sample of 185 jobs. Each expert coded the 185 jobs (1st coding); then, 6 months later, a 2nd coding occurred, whereby each expert coded the other's evaluation but did not have access to their own 1st evaluation. The statistical unit of observation was each job/substance decision (185 jobs×258 substances=47,730 decisions/expert). Chance-corrected weighted kappa statistic and Gwet's AC1 estimated the concordance between the experts in the 1st and 2nd coding.

Results Over 98% agreement was found and >97% (n=36,497) of decisions were to attribute no exposure to a particular job/substance combination by both experts. Restricting to combinations rated as exposed by both experts (n=508), Kappa=0.44 (95%CI: 0.37–0.50) and Gwet=0.55 (0.48–0.61) was found for confidence; while, Kappa=0.30 (0.15–0.45) and Gwet=0.92 (0.90–0.95) was found for concentration. After the 2nd coding, agreement improved for both confidence (Kappa=0.68, 0.63–0.73; Gwet=0.70, 0.65–0.75) and concentration (Kappa=0.65, 0.50–0.80; Gwet=0.96, 0.95–0.98).

Conclusion This sub-study provides some evidence supporting the reliability of expert assessment of occupational exposures in large-scale epidemiologic studies.

RF-285 THE EXPOSURE RESPONSE RELATION BETWEEN OCCUPATIONAL EXPOSURE TO WOOD DUST AND SINONASAL CANCER

¹Marie Kempf Frydendahl, Theresa Maria Møller Kynde, Henrik Albert Kolstad, Inge Brosbøl Iversen, Vivi Schlünssen, Signe Hjuler Boudigaard, Jens Peder Ellekilde Bonde, Jesper Medom Vestergaard, Esben Meulengracht Flachs, Ioannis Basinas. ¹Aarhus University Hospital, Denmark

10.1136/OEM-2021-EPI.362