

incomplete job histories, crudeness of exposure assessment, latent confounding, and survivor effect.

Conclusions We found evidence of an association between three two-digit occupation groups and incident stroke. We will better contextualize these results by refining the exposure assessment by examining associations with more detailed three-digit occupation groups, include all jobs held prior to enrollment, and incorporate employment duration.

O-140 OCCUPATIONAL NOISE EXPOSURE AND METABOLIC SYNDROME

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10.1136/OEM-2021-EPI.23

Objective Metabolic syndrome, a major risk factor for cardiovascular disease and diabetes, is recognized as an important health problem. Both environmental and occupational noise exposure has been related to increased risk of cardiovascular disease. We examined if metabolic syndrome was associated to occupational noise exposure.

Methods Associations between quantitative measures of occupational noise exposure and metabolic syndrome were analysed with logistic regression in 411 industrial- and 154 finance and service workers selected as a random sample from 12 industries between 2009 and 2010. We used anthropometric measures and biomarkers to define metabolic syndrome as abdominal obesity and the presence of ≥ 2 of the following conditions: high blood pressure, high triglycerides, low HDL cholesterol and high HbA1c.

Results A total of 167 workers were classified with metabolic syndrome. After adjustment for potential confounders, prevalence ratios for metabolic syndrome comparing the highest to the lowest noise exposure quartiles were 2.04 (95% CI: 1.03–4.03) for cumulative occupational noise exposure. In stratified analyses, the association diminished for industrial workers and increased for finance and service workers.

Conclusion These cross-sectional findings suggest cumulative occupational noise exposure may contribute to cardiometabolic health, but results need to be confirmed with prospective data.

O-144 RISK OF MYOCARDIAL INFARCTION AMONG PIGEON BREEDERS EXPOSED TO ORGANIC DUST

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10.1136/OEM-2021-EPI.24

Introduction Anthropogenic airborne particulate matter is associated with ischemic heart disease, while little is known about particles from organic dust.

Objective Pigeon breeders are exposed to high levels of organic dust in the pigeon lofts, and the objective of this study is to investigate the association with myocardial infarction.

Methods We followed 6,256 male pigeon breeders and their 1:30 individually matched referents from 1980 or first year of

membership in the Danish Racing Pigeon Association if later, until end of study in 2013. Referents were matched on sex and year of birth and randomly drawn from the general Danish population. Information on hospital-based diagnoses, emigration, death and confounders were obtained by record linkage with Danish national registers. Subjects with a diagnosis of myocardial infarction, or chronic ischemic heart disease prior to start of follow-up were excluded. Stratified Cox regression analyses estimated the hazard ratios (HR) of myocardial infarction, adjusted for occupation and place of residence (urban/rural) at start of follow-up.

Results The incidence rate of myocardial infarction was 507 (per 100,000 person-years) among pigeon breeders and 445 among the referents. The crude hazard ratio was 1.16 (95% CI, 1.06–1.26), similar after adjusting for possible confounding variables; 1.12 (95% CI, 1.03–1.23).

Conclusion In this study we found an increased risk of myocardial infarction among male pigeon breeders. The excess risk is suggested to be explained by exposure to organic dust, pointing to organic dust being a part of ischemic heart disease aetiology. We partly adjusted for lifestyle factors, but the lack of individual information on ex. smoking and dietary factors is a clear limitation. Thus, findings must be interpreted with caution even if adjustment by occupation and place of residence may have reduced such potential confounding. Future research with more detailed information on organic dust exposure and lifestyle factors is warranted.

O-190 THE OCCUPATIONAL DISTRIBUTION OF METS PREVALENCE AND INCIDENCE DIFFERS BY SEX AND IS NOT EXPLAINED BY AGE AND HEALTH BEHAVIOR: RESULTS FROM 75,000 DUTCH WORKERS FROM 40 OCCUPATIONAL GROUPS

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10.1136/OEM-2021-EPI.25

Objective This study examines the association between 40 occupational groups and baseline prevalence and incidence of metabolic syndrome (MetS), separately for male and female workers, and whether age and health behaviors can explain the association.

Methods Data from 74,857 Lifelines Cohort and Biobank Study participants were used to regress occupational group membership, coded by Statistics Netherlands, on the prevalence and incidence of MetS using Logistic and Cox-regression analyses. MetS diagnosis was based on physical examinations, blood analysis, and recorded medication use. Information on age, smoking status, physical activity, diet and alcohol consumption was acquired using questionnaires.

Results MetS prevalence was 17.5% for males and 10.6% for females. In the fully adjusted models, three occupational groups were associated with increased MetS prevalence in both sexes. Three additional occupational groups were associated with MetS among men, nine among women. Strongest associations were found for male ‘hospitality, retail and other service managers’ (odds ratio (OR): 1.65; 95% confidence interval (CI): 1.03–2.65) and female ‘stationary plant and machine operators’ (OR: 3.44; 95% CI: 1.57–4.54). During a median 3.8-year follow-up, MetS incidence was 7.8% for

males and 13.2% for females. One occupational group was associated with an increased MetS risk in both sexes. Six additional occupational groups had an increased risk for MetS among men, four among women. Highest risks were found for male 'stationary plant and machine operators' (hazard ratio (HR): 1.94; 95% CI: 1.26–3.00) and female 'food preparation assistants' (HR: 1.80; 95% CI: 1.01–3.22).

Conclusion Findings indicate that occupational group matters for men and women in MetS development, and that differences in MetS prevalence across occupations are not merely a reflection of selection of metabolically unhealthy workers into specific occupations. The striking sex differences in the occupational distribution of MetS indicates that preventive measures should, with some exceptions, target men and women separately.

0-345 ASSOCIATIONS AMONG WORKING HOURS, ROTATING SHIFT WORKS, AND RISK OF CARDIOVASCULAR DISEASES IN TAIWAN: ANALYSES FROM THE NATIONAL LEVEL TO THE COMPANY LEVEL

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10.1136/OEM-2021-EPI.26

Introduction Long working hours and rotating shifts are risk factors for cardiovascular disease. National policies and corporate actions play an important role in sound working hours and shifts. Imbalanced rotation speed and working hours may double the burden of cardiovascular disease. We investigated the incidence of work-related cardiovascular disease before and after government relaxed disease recognition criteria in Taiwan. We further used a traditional manufacturing factory as an example to analyze the association between corporate health promotion activities and workers' cardiovascular disease risks.

Methods At the national level, we collected data on the number of work-related cardiovascular disease and average working hours per month before and after policy changes. At the corporate level, we collected data on shift types, working hours, health promotion activities, and 10-year risk of manifesting clinical cardiovascular disease. Our statistical analyses included applying mixed-effect models, a mediation analysis, and a generalized estimating equation.

Results The relaxation of national criteria for recognizing work-related cardiovascular disease has resulted in a 2.5-fold increase in the incidence rate. This effect was mediated by working hours. Our case study showed workers who worked 12 hours per shift had a higher risk of cardiovascular disease than those who worked 8 hours per shift. Workers who needed to rotate shifts and spent more time on each shift had a higher risk of cardiovascular disease than those who shifted but spent less time on each shift. Workers who participated in health promotion activities had a lower risk of cardiovascular disease.

Conclusion National policies relaxing disease recognition criteria have helped more workers received compensation. Criteria that quantitatively point out the hazard of prolonged working hours to cardiovascular disease prompt reductions in working hours at the corporate level. Our case study highlights potentially additional benefits of health promotion activities on the prevention of work-related cardiovascular disease.

COVID19–1

0-125 OCCUPATIONAL CHARACTERISTICS ASSOCIATED WITH SARS-COV-2 INFECTION IN THE UK BIOBANK DURING AUGUST-NOVEMBER 2020

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10.1136/OEM-2021-EPI.27

Objective Occupational exposures may play a key role in SARS-CoV-2 infection risk. We used a job-exposure matrix (JEM) linked to the UK Biobank to measure occupational characteristics and estimate associations with a positive SARS-CoV-2 test.

Methods People reporting job titles at their baseline interview at assessment centers in England were included. We excluded healthcare workers and people ≥ 65 years old by March 2020. Jobs were linked to a JEM based on the US O*NET database. For each job, O*NET-based scores (range=1–5) were assigned for characteristics relevant for SARS-CoV-2 infection: physical proximity, exposure to diseases/infection, outdoors-exposed to weather, and outdoors-under cover. O*NET variables were used to determine whether jobs could be done remotely based on two algorithms. We evaluated SARS-CoV-2 tests occurring between August 5th and November 10th, 2020 (time when UK was not shutdown with a 5-day lag added). Cox regression was used to calculate adjusted hazard ratios (aHRs) as estimates of associations with a positive SARS-CoV-2 test accounting for age, sex, race, education, deprivation, assessment center, household size, and income.

Results Our inclusion/exclusion criteria identified 115,581 people, including 1746 with a positive SARS-CoV-2 test. A one-point increase in physical proximity score was associated with 1.12 times higher risk of a positive SARS-CoV-2 test (95% CI=1.03–1.22). A one-point increase in exposure to disease/infections score was associated with 1.08 times higher risk of a positive SARS-CoV-2 test (95%CI=1.01–1.15). There were borderline associations between outdoors work and a positive SARS-CoV-2 test (outdoors-exposed to weather aHR=1.05, 95%CI=1.00–1.10; outdoors-under cover aHR=1.08, 95% CI=1.00–1.17). People reporting jobs that could not be done remotely had higher risk of a positive SARS-CoV-2 test regardless of the algorithm used to classify jobs (aHRs=1.16 and 1.18).

Conclusion Numerous occupational characteristics were associated with increased risk of a positive SARS-CoV-2 test even after accounting for demographic and socioeconomic differences between workers.

0-162 IMPACT OF THE COVID-19 PANDEMIC ON KEY WORKERS IN ENGLAND: FINDINGS FROM THE HEALTH AND EMPLOYMENT AFTER FIFTY (HEAF) STUDY

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10.1136/OEM-2021-EPI.28

Introduction In the UK, workers who were essential to maintain communications, travel, food and healthcare were deemed