Oral Presentation

Cancer

0255 LIFETIME CANCER RISK IN THE BRITISH RUBBER INDUSTRY: A RETROSPECTIVE COHORT WITH 49 YEAR FOLLOW-UP

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IARC concluded (IARC, 1982, 1987) there is sufficient evidence of a causal association between occupational exposures in the rubber-manufacturing industry and cancer. However, because of the complexity and variety of substances used in the process, a great deal of uncertainty regarding which specific exposures give rise to the increases in cancer remains. Moreover, since exposures in the rubber industry have decreased considerably and efforts have been made to remove confirmed carcinogens from the production process, it is unclear if increased cancer risks are (primarily) attributable to historical exposures.

To quantitatively evaluate exposure-response associations between specific long-term occupational exposure and cancer mortality, we updated a cohort of 40 867 men aged 35+ who were employed in the British rubber industry in 1967. A previous follow-up to 1976 identified excess risk of bladder cancer in men, excess death from lung cancer across the industry and excess stomach cancer mortality in the tyre sector.

Extending the mortality follow-up to 49 years, we are currently processing mortality data from NHS Digital and linking it to a population-specific quantitative job-exposure matrix for rubber (process) dust, rubber fumes, and n-Nitrosamines based on available data from the EU- EXASRUB project.

We hope to begin exposure-response analyses in April 2017 (and present the results at the conference). Few occupational cohorts of this size have such lengthy follow-up, so the presented analyses will provide an important overview of lifetime exposure-specific cancer mortality risks of specific exposures historically and currently encountered in the industry.

Oral Presentation

Other

0256 LABOUR MARKET SEGREGATION AND GENDER DIFFERENCES IN SICKNESS ABSENCE: TRENDS IN 2005–2013 IN FINLAND

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Introduction Women have higher work disability rates than men, but less is known of changes in this gap over time. We examined gender differences in sickness absence trends

focusing on sectoral and occupational gender segregation in the labour market.

Methods We used large representative register data on Finnish wage-earners aged 25–59 and generalised estimation equations based on repeated logistic regression to estimate the annual risk of having any long-term sickness absence.

Results Between 2005 and 2013, the predicted proportion of those with all-cause sickness absence decreased from the initial levels of 10.6 among men and 15.1 among women by 16.7% and 13.6%, respectively. The decreases were particularly large among male and female manual workers and among female upper non-manual employees, and there was further variation between different industrial sectors. Excess decrease among men mainly coincided with the peak of the economic recession in 2009. Widening of the gender gap was not influenced by differential distributional changes by employment factors, sociodemographic factors and previous sickness absence between the employed male and female risk populations, but it was influenced by differential within-group changes in sickness absence at the time of the recession between male- and female-dominated industrial sectors and occupational classes.

Conclusions Widening of the gender gap in sickness absence was largely explained by excess decrease in sickness absence in male-dominated sectors and occupations which were hit especially hard during the recent economic recession. The association may be related to reduced illness behaviour among employees experiencing greater labour market insecurity.

Poster Presentation

Psychosocial

0257 ASSOCIATIONS OF INDIVIDUAL LEVEL AND JOB-GROUP LEVEL ESTIMATES OF PSYCHOSOCIAL WORK FACTORS WITH DEPRESSIVE SYMPTOMS

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Background Job exposure matrix (JEM) methodology is useful in occupational psychosocial epidemiology for eliminating reporting bias and analysing low-prevalence outcomes in register based populations. This investigation aims to compare patterns of associations between psychosocial factors, assessed by JEM estimates and individual-level estimates, respectively, with depressive symptoms and to test the linearity of the associations.

Methods In this cross-sectional analysis, we used data from the Danish Work Environment Cohort Study 2000 (n=8583) to generate JEM and individual-level estimates of quantitative demands, work pace, influence, opportunities for development, emotional demands, and role conflicts at work. JEM estimates were attained from regression models providing sex- and age specific estimates for each job-group. Depressive symptoms were measured with the MHI-5 scale of the Short Form 36 questionnaire. The shape of the association between psychosocial exposures and depressive symptoms were assessed by use of linear splines. Using F-tests we tested whether reducing model flexibility (i.e. number of splines) led to statistically significant changes in model fit.

Results Preliminary results indicate that associations between individual-level estimates of psychosocial work factors with depressive symptoms were largely linear and statistically significant. The associations of JEM estimates of psychosocial job factors with depressive symptoms showed varied patterns of non-linearity and were generally not statistically significant, after adjustment for individual-level measures.

Discussion Our study indicates that individual estimates of psychosocial work factors are consistently, strongly and linearly associated with depressive symptoms, whereas JEM estimates showed varied and non-linear patterns. JEM psychosocial work estimates may capture different phenomena than individual-level estimates.

Poster Presentation

Musculoskeletal

0258

PREVALENCE OF WORK-RELATED MUSCULOSKELETAL DISEASES AND DISABILITY IN CONSTRUCTION WORKERS IN ANKARA

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Objectives Musculoskeletal diseases (MSD) affect almost 30% of the global construction sector workforce. Recent studies have shown high risks in bricklayers, plasterers and carpenters. The main causes of MSD in construction workers are heavy lifting, repetitive movements and poor ergonomic working postures. However, there are no studies in Turkey assessing work-related MSD prevalence in the construction sector and related disability in work and daily life.

The aim of this study is to examine the prevalence of musculoskeletal symptoms in manual handling construction workers active in the construction of new buildings for a city hospital in Ankara. The study includes assessing the work-relatedness of MSD. Subsequently the effect of MSD on disability is analysed.

Methods We plan a cross-sectional study using a questionnaire on sociodemographic characteristics, risk factors at work and employment conditions, work history, health status, the Nordic Musculoskeletal Questionnaire and disability as a consequence of work-related MSD, using a face-to-face interview method. The interviews will be performed by trained occupational health and safety specialists from the Public Health Institution of Turkey (PHIT).

The study proposal has been approved by the PHIT and the construction company. Workers will be asked for informed consent.

Results We planned that 1.200 people will be included in the study. The prevalence of work-related MSD and disability will be determined, stratified for occupational groups and socio-demographic variables.

Conclusion The main outcome is prevalence of work-related MSDs in construction workers studied and related disability in work and daily life. Interventions will be recommended for prevention.

Poster Presentation

Respiratory

0259

AIR POLLUTANTS ASSOCIATED WITH BASELINE IN FRACTIONAL EXHALED NITRIC OXIDE (FeNO) IN SCHOOL CHILDREN

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Fractional exhaled nitric oxide (FeNO) is now recognised as a surrogate marker of eosinophilic airway inflammation and is affected by several factors, air pollution is an environmental determinant of it. Previous studies provide evidence that children are sensitive to the effects of air pollution. Therefore, the main objective of this study is to determine the effects of ambient air pollution on exhaled NO levels among school children.

From March 2016 to March 2017, a nationwide cross-sectional study was conducted in Taiwan using a modified Chinese version of the International Study of Asthma and Allergies in Childhood (ISSAC-C) questionnaire. Children received FeNO measurement in the morning, and inside buildings. Air pollution data were retrieved from air monitoring stations within two kilometre of the schools.

From 37 schools, 3344 students aged 6–15 years were randomly selected as candidates of the study. We complete monitoring data of air pollution, including SO₂, O₃, CO, NO₂, PM_{2.5} and PM₁₀. Our preliminary results showed that the levels of FeNO were significantly ($p < 0.05$) associated with average CO (0.48 ± 0.4 ppm), NO (5.48 ± 10.21 ppb), PM_{2.5} (20.96 ± 14.27 µg/m³), and PM₁₀ (46.44 ± 22.78 µg/m³) concentrations of lag day1. In summary, results indicated that exposure ambient pollutants might affect FeNO levels of schoolchildren. In order to further investigate, multilevel modelling will be used to distinguish the sources of variation in the response. We plan to evaluate variations among children in the first level, and variations among schools in the second level.