Oral Presentation

Respiratory

0174 MORTALITY DUE TO ASBESTOSIS IN A COHORT OF FORMER ASBESTOS TEXTILE WORKERS

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Background Knowledge on the role of the temporal pattern of exposure to asbestos in determining mortality from asbestosis is limited. We aim at investigating how the risk of death due to asbestosis changes according to the duration of employment and the time since the last employment (TSLE).

Methods An historical cohort of workers from a former asbestos textile factory (active between 1946 and 84) was followed up until November 2013. For each subjects, we collected information on duration of the employment, TSLE, age and year of first employment, and sex. We estimated hazard ratios (HR) and 95% confidence intervals (CI) of death from asbestosis by fitting multivariable Cox regression models with age specified as the main temporal axis.

Results We identified 51 deaths from asbestosis that occurred among 1823 workers (incidence rate of 74 cases per 1 00 000 person-years). The risk of death from asbestosis increased with increasing exposure duration (HR 3.0 [95%CI 1.3–7.6] for duration of employment ≥ 15 years compared to duration < 5 years) and declined with TSLE (HR 0.3 [95%CI 0.1–0.9] for TSLE ≥ 25 compared to TSLE < 5 years). We observed a strong decline of mortality due to asbestosis among workers firstly employed after 1968.

Conclusions Information on the temporal pattern of exposure to asbestos is fundamental to estimate the individual risk of asbestosis. On the opposite of what overserved in ecological studies, the risk of death due to asbestosis declines steadily after cessation of exposure to asbestos.

Oral Presentation

Occupational Medicine (SCOM/Modernet)

0175 DIFFERENT APPROACHES FOR EARLY RECOGNITION AND PREVENTION OF NEW AND EMERGING WORK-RELATED DISEASES

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Rapid changes in working conditions constantly give rise to new occupational health risks and work-related diseases (WRDs). Monitoring these new WRDs is essential from the aspects of early recognition and prevention. In addition, it requires a comprehensive approach, using several complementary methods. One of these methods are early warning systems designed to collect information on health effects in order to trigger interventions and prevention. These systems differ in characteristics, their ability to capture new WRDs and their link with prevention. Therefore, the aim of this study is to identify sentinel and alert systems for detecting new and emerging WRDs, describe their main characteristics, and set up a basic typology. In the first phase, we conducted an extensive scientific and grey literature review and we identified 75 surveillance systems covering 26 different countries. We set up a basic typology of these systems dividing them into four main groups: compensation-based systems (21), non-compensation related comprehensive systems (38), sentinel systems (12) and public health surveillance systems aimed at workers and non-workers (7). These systems further differed in type of WRDs, coverage, data collection, evaluation of work-relatedness; follow up of new/emerging risks, link with prevention etc. In the second phase, we chose a representative selection of 12 good practise examples to be described in-depth. Through a desk research and interviews with stakeholders, we gained additional insight into drivers and obstacles regarding these systems and usage of collected data for identification of WRDs, prevention and policy recommendations.

Oral Presentation

Cancer

0176 SINONASAL CANCER FOLLOWING OCCUPATIONAL STYRENE EXPOSURE: A NEW SIGNAL OF HUMAN CARCINOGENESIS?

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Objective We recently suggested an increased risk of sinonasal cancer following occupational styrene exposure. The objective of the current study is to explore this finding further by including information on quantitative measures of styrene exposure and histological information on sinonasal cancer subcategories.

Methods We followed 73 092 workers employed in 456 small and medium sized Danish reinforced plastics companies from 1968 to 2011. Incident cases of sinonasal cancer were identified by linkage with the national Danish Cancer Registry. We modelled cumulative styrene exposure level from historical styrene measurements, company information, and survey data and estimated rate ratios (RR) of overall sinonasal cancer and histological subcategories. Due to few cases, these analyses were performed with no adjustment. To account for potential confounding from age, gender and employment in wood

industries we conducted a nested case-control study matched on these factors. Analyses were performed with conditional logistic regression.

Results The RR of overall sinonasal cancer (37 cases) was doubled in the upper exposure tertile compared to the lower exposure tertile. For adenocarcinomas (9 cases), the RR in the medium and upper exposure tertiles were 1.17 (95%CI 0.07–18.72) and 7.87 (95%CI 0.97–63.94), respectively. Comparable results were obtained from the case-control analysis indicating limited confounding by age, gender and wood dust exposure. No consistent trend was observed for squamous cell carcinomas.

Conclusion Despite statistically non-significant results and limitations owing to the few cases, this study indicates increased risk of sinonasal adenocarcinomas among high level styrene exposed workers and could signal a carcinogenic effect of styrene.

Poster Presentation

Risk Assessment

0177 OCCUPATIONAL RISK ASSESSMENT ON CHRYSOTILE PRODUCTION

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The research was conducted at the only enterprise in Kazakhstan producing chrysotile - "Kostanai minerals" JSC. Sanitary and hygienic studies were carried out and working conditions were evaluated at 102 workplaces of the Processing Complex (PC). The level of Morbidity with Temporary Incapacity for Work (MTIW) was analysed for 758 employees of the PC workers. The occupational risk assessment was carried out according to the method proposed by professor Izmerov. For the processing and analysis of data, the probabilistic-statistical methods and the odds ratio method are applied.

By using results of the conducted studies of working conditions of PC workers was established that the main unfavourable factors of the labour process are the increased noise level and dustiness of workplace air. As a result of the analysis has established the following features: 1. Female's indicators of the MTIW are more expressed than males; 2. Established that morbidity rates are significantly higher among workers aged 30–39 years and work experience at the PC up to 9 years. 3. According to the main MTIW indicators, the following groups are at the highest level: "Traumas in everyday life", "Diseases of the respiratory organs, including SARS" and "Diseases of the musculoskeletal system"

Based on the degree of significance of the location of occupational risk indicators, the categories and criteria for the health profiling of health of PC workers are defined in the following order: 1) "MTIW" and "integral disability index"; 2) "working environment class"; 3) "occupational disease" and "occupational disease index".

Poster Presentation

Psychosocial

0179 FACTORS ASSOCIATED WITH HIGH NEED FOR RECOVERY IN DIFFERENT AGE GROUPS

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Aim To explore associations of occupational factors with a high need for recovery (HNFR) in different age groups.

Methods The need for recovery (NFR) is a short term health effect, predictive for future long term adverse mental health effects.

This was a cross-sectional study in 17 400 subjects (75.7% participation rate), working in 128 organisations (both private and public). The subjects were divided into 8 age groups.

NFR was assessed by the NFR scale questionnaire (0–100 scale). High need for recovery (NFR >45) was used as outcome variable.

20 work related psychosocial factors were assessed: 13 originating from the Copenhagen Psychosocial Questionnaire (COPSOQ II short version) and 7 were developed within our service. Other variables were: physical workload, gender and age (total study population).

Multivariate log-binomial regression analyses were used to calculate regression coefficients for a HNFR, for the total population and for each age group separately.

Results General prevalence of HNFR was 35.9%. Prevalences were significantly different between the different age groups, ranging from 23.8% to 39.1%.

Physical workload, quantitative demands, work-life balance and discomfort from physical work environment had a significant association with HNFR in all age groups.

Emotional demands, organisational social capital, participation in decision making, possibilities for development, growth opportunities, working more hours than desired, job insecurity, undesirable behaviour and gender were additionally significant in one or more age groups.

Conclusions Four occupational factors need to be considered throughout the whole career. Additional and different factors need to be taken into account according to age group.

Oral Presentation

Occupational Medicine (SCOM/Modernet)

0181 METHODOLOGIES TO IDENTIFY WORK-RELATED DISEASES: IN-DEPTH DESCRIPTION OF SELECTED OF SENTINEL OR ALERT SYSTEMS

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