EVALUATION OF THE RELATIONSHIP BETWEEN SMOKING AND PNEUMOCONIOSIS: A REVIEW OF THE LITERATURE

Sevai Muzeyyen Ercan, 1Adem Kayancu, 1Abdulsemet Sandal, 1Ali Naci Yildiz. 2Hacettepe University, Faculty of Medicine, Department of Internal Medicine, Unit of Occupational Medicine, Ankara, Turkey; 2Hacettepe University, Faculty of Medicine, Department of Public Health, Ankara, Turkey

Introduction Pneumoconiosis is a condition that results in fibrosis in the lung tissue due to accumulation of inorganic dusts in the lung. Smoking and exposure to inorganic dusts affect respiratory functions separately. However, the combined effect may be much more increased than either exposure alone. In this review, we aimed to evaluate the relationship between smoking and dust exposure and their effects on pulmonary function tests (PFT).

Methods Studies have been conducted between 1961 and 2016 on the relationship between smoking and dust exposure, and their effects on PFT were evaluated.

Result All 4 researches evaluated were performed in coal workers. In 1961, Ashford, et al evaluated 4014 coal workers in 3 coal mines of Scotland. Statistically significant increase in respiratory symptom frequency and decrease in forced expiratory volume in 1 s (FEV1) were found in smokers compared to non-smokers. In 1980, Oger, et al investigated 465 coal workers with diagnosis of pneumoconiosis. Airflow obstruction was detected in 74.1% of smokers and 26.3% of non-smokers. In 1988, William, et al included 3380 coal workers to their study in the United Kingdom and found that smokers had higher respiratory symptoms and more FEV1 reductions. In China, Quink, et al included 376 coal workers to their study published in 2016. Of those, 200 (53.1%) were smokers. Cigarette smoking and exposure to dust impaired respiratory functions more than exposure alone and it has been determined that as the exposure time increases, the abnormality increases in the PFT. No significant difference was found between the non-smoking coal workers and the non-smoking control group.

Discussion Results of researches supporting combined effects of smoking and dust exposure reveal the requirement of minimization of dust exposure and cessation of smoking. Further studies could be performed to elucidate relationship between smoking and other types of dust exposures in terms of respiratory symptoms and dust exposure.

1318 TRENDS IN OCCUPATIONAL DISEASES IN FINLAND 1975–2013

Riitta Sauni, 1Paru Oksa, 2Nina Talola, 2Simo Virtanen, 3Jaakko Nevalainen, 1Jukka Uitti. 1Department for Occupational Safety and Health, Ministry of Social Affairs and Health, Finland; 2Finnish Institute of Occupational Health, Tampere/Helsinki, Finland; 3University of Tampere, Tampere, Finland

Introduction The objective was to investigate trends in the incidence of recognised and suspected cases of occupational diseases in Finland 1975–2013, including variations by gender and industry.

Methods The data consisted of recognised and suspected cases of occupational diseases registered in the Finnish Registry of Occupational Diseases (FROD) in 1975–2013. From the annual workforce statistics and data of FROD we calculated the incidence of occupational diseases and suspected occupational diseases per 10,000 employed. For time trends by industrial sector, we used a five-year moving average and Poisson’s regression analysis.

Results Annual average rates of occupational diseases (per 10,000 employees) have varied from year to year. The total number was 25.0/10,000 in 1975 and 20.1/10,000 in 2013. Screening campaigns and legislative changes have caused temporary increases.

The highest incidence rates in different industrial sectors were in mining and quarrying (9.87; 95% CI: 8.65 to 11.30), construction (9.11; 95% CI: 9.98 to 10.43), manufacturing (9.04; 95% CI: 7.93 to 10.36) and in agriculture (8.78; 95% CI: 7.69 to 10.06), when financial sector was the reference (1.0). During that time, women had significantly less occupational diseases than men (RR 0.62; 95% CI: 0.57 to 0.68).

There is a more distinct decreasing trend from 2005 onwards: the average annual change in incidence was e.g. in agriculture –9.2%, in transportation –10.3% and in construction –4.7%. The average annual decline was greatest in upper limb strain injuries (–11.1%).

Discussion This study provides a useful overview of the status of occupational diseases in Finland over several decades. These data are a valuable resource for investigating which occupations are at an increased risk and where the preventive actions should be focused on. It is important to study the long-term