

matter of just not practice the damage, we need to do well; you must use the scientific foundations and implementing existing legislation in favour of the collective rather than the personal interests of the subject; on the principle of justice, it must use the law in the constitution of an ordered society with a view to holding a social life happy, giving each one what is his or each of which is for him or that is his due.

#### 742 PRIORITISATION EXERCISE FOR THE PROBE PROJECT (HAZARDOUS CHEMICAL PRODUCTS REGISTER FOR OCCUPATIONAL USE IN BELGIUM)

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**Introduction** The PROBE (Hazardous chemical Products Register for Occupational use in Belgium) study consists of a systematic collection of occupational chemical exposure data of Belgian workers. To test the feasibility of our approach a pilot study will be conducted using a concise list of priority chemicals.

**Methods** A targeted method was used to construct a priority list of chemicals relevant for the Belgian workplace context. In a first step, five recent European reports on prioritisation exercises of workplace chemicals were reviewed. All reports constructed a priority list based on different combinations of relevant sources: hazard information, health effects, exposure data, volume used and limit value databases. The appearance of a chemical in at least 2 prioritisation reports was used as a selection criterion for our list. In this way, we used the accumulated expertise of these reports to extract a preliminary list of 16 chemicals.

In a second step relevancy for the Belgian workplace context was evaluated using a number of sources: data on occupational exposure collected by Occupational Health Services, available biomonitoring and workplace measurements, REACH registrations for Belgium, data from the labour inspection and data on recognised occupational diseases by the Belgian Fund for Occupational Diseases. Fourteen out of the 16 chemicals listed in the preliminary list appeared to be relevant for the Belgian context.

**Result** A priority list of 14 chemicals was constructed for the pilot study of PROBE: crystalline silica, diesel exhaust and PAHs, wood dust, formaldehyde, asbestos, isocyanates, benzene, organic solvents, lead, beryllium, powder coating, refractory ceramic fibres, welding fumes and cadmium.

**Discussion** This stepwise approach made it feasible to select a concise number of priority chemicals. In the coming months, exposure data on these chemicals will be collected in a sentinel study and an evaluation of the appropriateness of the selection will be performed.

#### 732 APPLICATION OF POSITRON EMISSION TOMOGRAPHY BASED IMAGING IN THE MANAGEMENT OF PNEUMOCONIOSIS CASES: A LITERATURE REVIEW

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**Introduction** We aimed to evaluate case reports and research articles subjected the usage of positron emission tomography (PET) or PET combined with computed tomography (PET-CT) in pneumoconiosis patients.

**Methods** ‘Pubmed’ and ‘Web of Science’ databases were queried with keywords of ‘pneumoconiosis and PET’ and 47 records were reached. Inclusion criteria were language (English or Turkish), publication date before 15th April, 2017, article type (case reports, case series and research articles), subject as usage of PET or PET-CT in management of pneumoconiosis cases. Articles not meeting at least one criteria were excluded. After those criteria applied 6 case reports, 5 case series, and one research article were evaluated.

**Result** Article contents were categorised according to purpose of PET or PET-CT (investigation of malignancy or differential diagnosis of benign pathology) and contribution of PET or PET-CT in the management (compatible with final diagnosis, compatible with final staging, or false positive). For 6 case reports, purpose was malignancy investigation in 5 (3 with false positive results and 2 with results supporting final diagnosis), and differential diagnosis of benign pathology in one report (with results supporting final diagnosis). Purpose was malignancy investigation in all case series (3 reports with false positive results, one report with results compatible with final diagnosis, and one report with results compatible with final staging) with number of cases 3–42. The research article aimed to investigate pulmonary nodules with both 11C-methionine-(MET)-PET and fluorine-18-(F-18)-fluorodeoxyglucose(FDG)-PET in 26 patients and revealed more increased uptake values in malignant nodules compared to pneumoconiotic nodules.

**Discussion** Despite results revealing benefits of PET or PET-CT in management of pneumoconiosis cases, their application should be carefully evaluated due to false positive results. Future researches in detection of cut-off uptake values between benign pneumoconiotic nodules and malignant lesions may be useful.

#### 746 EVALUATION OF PNEUMOCONIOSIS IN TURKEY'S ANNUAL STATISTICS OF OCCUPATIONAL DISEASES BETWEEN 2006 AND 2015

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**Introduction** Republic of Turkey Social Security Institution (SSI) is the institution responsible for statistics of occupational

diseases in Turkey by law. We aimed to evaluate proportion of pneumoconiosis in occupational diseases and occupational pulmonary diseases in annual statistics reports of SSI.

**Methods** Annual statistics reports published between 2006–2015 by SSI were evaluated. Diagnoses classified as pneumoconiosis in reports published before 2013 were coal worker's pneumoconiosis, asbestos or other mineral fibre induced pneumoconiosis, talcosis, silicosis, aluminosis, boxide fibrosis, beriliosis, graphite fibrosis, siderosis, stannosis, and other unclassified pneumoconiosis. Diagnoses classified as pneumoconiosis in reports published starting from 2013 were silicosis and silicotuberculosis, asbestosis, silicatosi, siderosis, and pneumoconiosis induced by hard metal dusts, aluminium, and its compounds.

**Result** Total numbers of cases with occupational diseases varied between 351 and 1208 in annual reports of SSI. Most frequent occupational diseases were pneumoconiosis and diseases induced by lead and its dusts. When occupational diseases listed according to the frequency, rank of pneumoconiosis was 1 or 2 in all of the evaluated years. Total numbers of cases with pneumoconiosis varied between 68–1010. Percentage of pneumoconiosis in all cases with occupational diseases and in cases with occupational pulmonary diseases varied between 19.3%–83.6% and 80.2%–99.3% respectively.

**Discussion** Despite low total numbers of occupational diseases in the annual SSI statistics, pneumoconiosis constitutes the major proportion of occupational diseases in Turkey. This could be a result of directive about dust induced diseases which defines periodical health surveillance for workers with high-risk occupations. Proper application of initial assessment of fitness and health surveillance for workers with current or prior history of risk of pneumoconiosis may increase diagnoses.

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

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**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.

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#### TRENDS IN OCCUPATIONAL DISEASES IN FINLAND 1975–2013

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**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