Abstracts

This integrative project will gain insights in the exposure determinants that drive the physiopathological effects, thus allowing an efficient prevention strategy to be developed.

Poster Presentation

Exposure Assessment

RESPIRABLE DUST AND CRYSTALLINE SILICA EXPOSURE AMONG CONCRETE FINISHING WORKERS IN CONSTRUCTION INDUSTRY

Hyunhee Park, Eunsong Hwang* . Korea Occupational Safety and Health Agency, Ulsan, Republic of Korea

Objectives The objective of this study was to evaluate the concentration and size-distribution of respirable crystalline silica among concrete finishers in the construction industry.

Methods Active-specific personal air sampling (n=129) were carried out in eight apartment complex construction sites by using PVC (poly vinyl chloride) filters with aluminium cyclones (flow rate at 2.5Lpm). Crystalline silica was analysed by FTIR (Fourier-transform infrared spectroscopy). The concentration of crystalline silica were showed by three different types of construction jobs(concrete chipping, grinding, plastering) and four different workplace(exterior wall, inside of apartment unit, staircase, underground parking lot).

Results The concentration of respirable crystalline silica was highest in concrete grinding (2.058 mg/m³) followed by concrete chipping (0.123 mg/m³), and plastering work (0.003 mg/m³). Concentration of crystalline silica was differ by the types of workplace in concrete grinding work, the concentration of respirable crystalline silica in staircase shows highest concentration (4.177 mg/m³) followed by inside of apartment unit (2.761 mg/m³), underground parking lot (1.302 mg/m³), and exterior wall (0.893 mg/m³). Considering the proportion of crystalline silica in the dust from job type, crystalline silica content was higher for concrete chipping work. The crystalline silica content was 6.921% in chipping work, 4.121% in grinding and 0.943 in plastering work. The correlation factors between respirable crystalline silica and respirable dust was 0.970 (p<0.01) in chipping work, 0.793 (p<0.01) in grinding and 0.100 (p=0.568) in plastering work.

Poster Presentation

Cancer

LUNG CANCER RISK DUE TO EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA IN THE ABSENCE OF SILICOSIS

Matthias Mühlen. Federal Institute for Occupational Safety and Health, Berlin, Germany

Background Exposures to respirable crystalline silica (RCS) occur at a variety of workplaces, especially in mining and quarrying. The International Agency for Research on Cancer (IARC) has classified RCS in the form of quartz or cristobalite dust as carcinogenic to humans (Group 1). But the role of silicosis for the development of lung cancer is still unclear: is silicosis a simple marker for a high cumulative exposure or is it an intermediate factor on the pathway to lung cancer?

Methods A review of published epidemiological studies in occupational settings with known exposure to RCS was performed.

Results The lung cancer risk among silicotics is in general higher than among subjects with unknown silicosis status. But epidemiological studies on non-silicotics, which can refer to data of silicosis registries, are scarce and often have only low statistical power. Therefore, even if the pooled lung cancer risk estimate for these studies is not significantly elevated, an independent contribution of RCS to lung cancer risk cannot be ruled out.

Conclusions The question remains whether RCS increase the lung cancer risk even in the absence of silicosis. Future studies on lung cancer mortality should include data from silicosis registries and/or information on contributing causes of death. The impact of competing occupational risk factors like radon or arsenic should also be taken into account.
Poster Presentation

**0077 SHOULD OCCUPATIONAL HEALTH PATIENTS RECEIVE THE MEDICAL RECORDS CONCERNING THEIR MEDICAL VISIT?**

1,2Shlomo Moshe*, 1Nazarin Kabaha, 1,2Ayala Krakov, 1Maccabi Healthcare Services, Holon, Israel; 2Tel Aviv University, The Division of Environmental and Occupational Medicine, Israel

10.1136/oemed-2017-104636.56

**Objectives** Our study examines the impact and importance of providing medical records at the end of the visit in occupational medicine clinics (OMC) on patients and occupational physicians.

**Methods** This study is a cross-sectional study. Data was collected from patients visiting four different OMC during 2015 for a fitness for work evaluation and includes 287 questionnaires. We also collected questionnaires from 62 occupational physicians (OPs). The satisfaction range in the questionnaires was between 1 (very slightly satisfied) and 5 (very satisfied).

**Results** When patients were provided with the medical information in writing and orally, they showed a higher level of understanding (4.3 and 4.4 compared to 3.8 respectively, \(p<0.001\)), higher level of confidence in their OP (4.4 and 4.3 compared to 3.7 and 4 respectively, \(p<0.001\)), higher level of satisfaction (4.3 and 4.4 compared to 3.8 respectively, \(p<0.001\)), and higher sense of control and ability to correct the record (1.8 compared to 1.4 respectively, \(p=0.01\)). Doctors responded that giving the results orally to patients (39/62, 63%) would lead to more appeals of decisions. However, they believed that giving oral information would better clarify the work restrictions (4.6 compared to 4.1 respectively, \(p<0.05\)) and cause patients to trust them more (4.6 compared to 4.1 respectively, \(p<0.05\)).

**Conclusions** We recommend sharing the medical records with patients and including an oral explanation, understanding that the advantages overcome the disadvantages of this approach.

---

**Poster Presentation**

**Musculoskeletal**

**0078 THE RISK FOR LOW BACK PAIN CAUSED BY DRIVING PROFESSIONS IN A YOUNG ADULT POPULATION**

1,2Shlomo Moshe*, 2Regina Levin, 2Aharon S Finestone, 1Ayala Krakov, 2Ileen Zach. 1Maccabi Healthcare Services, Holon, Israel; 2Tel Aviv University, School of Public Health, Department of Environmental and Occupational Medicine, Tel Aviv, Israel. 3The Israel Defense Forces, Medical Corps, Ramat Gan, Israel; 4Assaf Harofeh Medical Centre, Zerifin, Israel

10.1136/oemed-2017-104636.57

**Background** The aim of this study was to assess the relationship between the incidence and exacerbation of Low Back Pain (LBP) in young professional drivers.

**Methods** In this controlled historical prospective study we included all male Israel Defense Forces (IDF) soldiers drafted between the years 1997–2006, followed them for 3 years and categorised them into three groups: administrative, light-duty vehicle drivers and heavy vehicle drivers. The incidence and recurrence rate of LBP was calculated for soldiers with or without a medical history of LBP in each professional group accordingly.

**Results** The incidence rates for LBP were 0.7%, 0.34% and 0.43% for the combined administrative and light vehicle driver groups, heavy vehicle driver and total driver groups, respectively (averagely 0.65%). The Relative Risk (RR) for severe LBP exacerbation for soldiers with a history of LBP without clinical findings was 1.4 (\(p<0.001\)) and for soldiers with a history of LBP with mild clinical/radiographic findings was 3.8 (\(p<0.01\)). Examination of RR exacerbation rates within different severity tiers yielded a similar trend amongst all professions.

**Conclusions** The crude incidence rate for LBP was found to be 0.65% - lower than literature reported rates, possibly attributable to our more stringent variable definition of severe LBP. The most prominent risk factors identified in our study include: a history of LBP and multiple complaints of LBP at recruitment. Driving profession in young age is not a risk for LBP.