

#### 0417 PRELIMINARY STUDY OF DISTRESS AMONG MEDICAL AND PARAMEDICAL STAFF OF MOROCCAN HOSPITAL

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**Objectives** Mental health status of medical and paramedical staff has an impact on the quality and quantity of their productivity and on their relationship with the patients.

The objective of this preliminary study is to measure mental health status in hospital staff, especially, emotional disorder "distress".

**Method** The study is realised in hospital in Rabat, Morocco, among 100 medical and paramedical staff. The 12-items General Health Questionnaire (GHQ) and questionnaire about their health status are used.

**Results** The results show that, according to gender; among 50 men, 50% suffer from distress and among 50 women, 58% are distressed.

Also, according to specialty; 80% of doctors and 47.5% of nurses in different categories (55% of nurses in anaesthesia and resuscitation, 45% of nurses of laboratory, polyvalent nurses and radiology nurses) suffer from this emotional disorder.

The findings demonstrate also, that 23% and 36% of the staff sample's suffer from different health problems (gastritis, allergies, asthma, colopathy, hypertension...) and from sleep disorders respectively.

**Conclusions** These preliminary results have highlighted the danger that threatens the health status of medical and paramedical staff of this hospital. Deeper investigations are needed to determine all the possible factors that could be influencing this status and studying the possible relationship between the founded pathologies and distress.

#### 0420 SEVERE OCCUPATIONAL INJURIES IN MOROCCO

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**Objectives** Occupational injuries represent a considerable part of the injury burden to society, affecting people in the most productive years of their lives. The aim of this study is to describe the profile of severe occupational injuries in Kenitra city, economic capital of the Gharb region (NW Morocco).

**Method** This is a descriptive retrospective analysis of severe occupational injuries (fatal injuries or resulting in permanent disability) notified in the delegation of employment of Kenitra in 2008–2009. The results do not include occupational diseases or journey accidents.

**Results** There were 210 severe workplace injuries reported; 176 resulted in temporary disability and 34 were fatal. According to data recorded, 91% of the victims were men with a male-female ratio of 10.05. The most exposed sectors were building and public works sector (38%), wood, furniture, paper, cardboard, textile and clothing industries (29.5%) and metallurgical industries (10%). Accidents were caused by machinery and falling materials, followed by falls from height and electricity.

**Conclusions** The assessment and prevention of occupational risks are a major asset to improve the quality of work and retain employees through a better quality of work life.

#### 0423 DEVELOPMENT OF A DISEASE SURVEILLANCE SYSTEM FOR SILICOSIS AND RESPIRATORY DISORDERS IN STONE CARVING WORKERS IN THAILAND

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**Objectives** To (a) develop a surveillance system for silicosis (b) estimate prevalence of silicosis and respiratory disorders among stone carvers and (c) develop a guideline for screening for silicosis.

**Method** This was a cross-sectional, descriptive study of 1257 stone carvers. Data were collected between July and October, 2012. The 767 participants in the study were classified by job categories. Exposure indices were constructed. Health outcomes (including job description, respiratory symptoms and chest radiographs) were assessed and confirmed by diagnosis by a B reader.

**Results** Of the total population, 767 underwent chest radiographs (age 24 to 75 years; 97.1% male). The duration of exposure was between 2 and 30 years. The prevalence of radiographic change was 8.9% (68 subjects). There were 66 subjects with parenchymal lesions and profusion (> grade 1/0 as per ILO classification). Two subjects have pleural abnormalities. Importantly, 55 cases among 68 with radiographic abnormalities were compatible with tuberculosis; 32 of whom showed no clinical evidence of tuberculosis.

**Conclusions** The diagnostic differentiation between silicosis and tuberculosis is challenging; consequently, discrepancies can arise when reporting the prevalence of the two diseases. Our research group is developing CPG for screening silicosis for referral to a clinician in chest medicine. The remaining at-risk population will be examined by chest X-ray in July 2013 and the hazard surveillance and exposure to silica performed next.

#### 0426 OCCUPATION AND LEUKAEMIA IN SPAIN 2007–2012

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**Objectives** Established risk factors for leukaemia do not explain the majority of leukaemia. Previous studies have suggested the importance of occupation in leukaemogenesis.

To evaluate associations between job title and leukaemia in the population the MCC-Spain

We studied occupational variation of the risk of chronic lymphocytic leukaemia

**Method** We have 30 744 occupational interviews recruited during 2007 to 2012 all was codified on 67 group homogeneous units, according to a defined criteria, in the same category defined by a set of tasks of the same characteristics. We analysed 196 cases of leukaemia (aged 20–75 years) and yours controls

randomly selected from 9 regions in a population based case-control study in Spain (MCC-Spain study) with demographic details, information on potential confounders and a comprehensive employment history. Each case of leukaemia may have one or more occupations. All occupation were codified by Occupational National Code (CNO 94) and The International Standard Classification of Occupations (ISCO-88). Associations between occupation and leukaemia were analysed using logistic regression adjusting for gender, age, and smoking.

**Results** We analysed the 27,4% of leukaemias. 6% never had occupation with risk of leukaemia and 41% were worked at least one occupation with probably exposition to carcinogens for leukaemia. Analysis is ongoing and results will be presented at the conference.

**Conclusions** In summary, our study showed some evidence supporting the role of some kind occupation in the development of leukaemia. However, given the relative low numbers the results have to be interpreted with some caution. On have analyse the exposition on these occupations.

#### 0435 PRIMARY SELECTION AND IMPACT OF SHIFT WORK ON CARDIOVASCULAR RISK FACTORS

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**Objectives** A potential "healthy worker effect" may bias the studied effect of shift work on health. The observed differences in health behaviour and health outcomes might be caused by: (i) primary selection, (ii) influence from the with shift work related environment, and (iii) impact of shift work. We aimed to study these potential sources.

**Method** A cohort of 4754 male trainees who had finished their professional training and started their career in the production between 1995 and 2012 was identified. Among them, 1348 (28%) were involved in rotating shift work and 3406 (72%) in a day working time. Information on lifestyle and blood pressure (BP), body mass index, and measurements of laboratory parameters were retrieved from the data of medical examinations. These were then compared at (i) the beginning, (ii) the end of training, and (iii) 3 years after the job begin, in relation to the working time.

**Results** At the beginning of the training, the prevalence of smokers was higher among shift workers (26% vs. 21%). During the training and the first 3 years of job, marginal decline of systolic BP and elevation of triglyceride were observed among the shift workers, after the adjustment for age at begin, duration between the examinations, and the measurements at the baseline. No difference was found with respect to other risk factors for cardiovascular diseases.

**Conclusions** Our findings do not support a primary selection in favour of shift workers. A potential impact of shift work on lifestyle and health will be studied prospectively.

#### 0438 DIFFERENCES IN OCCUPATIONAL INJURY RATES BY AGE GROUP, INDUSTRY AND INJURY TYPE

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**Objectives** The US workforce, like workforces around the globe, is ageing - which creates new challenges for occupational health researchers and practitioners. Throughout their working lives, workers experience changes in occupational exposures, behaviours and time demands. The ways in which age-related changes in specific injury risk factors interact to influence injury risk are complex. Data reported in Morbidity and Mortality Weekly Reports Data collected by the United States Bureau of Labour Statistics was analysed to compare age-related differences in occupational injury rates across several industrial sectors and subsectors.

**Method** Occupational injury incidence rate estimates were developed to compare age-related patterns by industry and injury type. Injury count data from 2010, stratified by age group, industry sector and injury type, were provided by the US Bureau of Labour Statistics Survey of Occupational Injuries and Illnesses. The Current Population Survey was used to develop estimates of at-risk experience. Data from a diverse collection of industry subgroups (defined by NAICS codes) were analysed, including agriculture, transportation and warehousing, private hospitals, nursing and residential care facilities, police protection and construction.

**Results** There are significant differences in the rates of occupational injuries when stratified by age group, industry and injury type.

**Conclusions** Additional research should explore the reasons why occupational injury rates differ by age group, industry and injury type. Occupational safety programs and policies should consider age-related differences in injury risks when allocating resources toward prevention efforts.

#### 0440 A SYSTEMIC REVIEW AND META-ANALYSIS OF EXHALED NITRIC OXIDE IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE: RELATIONSHIP TO PULMONARY FUNCTION

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**Objectives** Fractional exhaled nitric oxide (FeNO) has been implicated as a pulmonary biomarker in various respiratory disease, including COPD. Measurement of FeNO is a simple, non-invasive tool for assessing airway inflammation. Nevertheless, the usefulness of FeNO measurements in COPD patient in clinical practice is unclear. The objective of this review was to evaluate the efficacy of management of COPD based on FeNO in comparison with pulmonary function test.

**Method** Cochrane library (CENTRAL), MEDLINE, EMBASE and reference lists of articles were searched. The last searches were in July 2013. Results of searches were reviewed against predominantly criteria for inclusion. Relevant studies were selected, assessed and data extracted independently by two people. Participant articles with COPD management based on pulmonary function test compared with FeNO measurement were selected. Risk of bias for each study was assessed using the QUADAS (quality assessment of studies of diagnosis accuracy included in systematic reviews) scale.

**Results** Finally, eight studies were included. Of the eight studies, four were a negative and one were positive correlation between

## Correction

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Rodríguez MM, Fernández-Somoano A, Alguacil J, *et al.* Occupation and leukaemia in Spain 2007–2012. *Occup Environ Med* 2014 Jun;71 Suppl 1:A117–8. The seventh author name was published with mistake. The correct author name is Marcos-Gragera R.



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