Background Return to work with or after a chronic disease is not a very well understood process, influenced by a variety of personal, professional, societal and medical factors. The aim of this study is to identify predictors for return to work 12 months after a solid organ transplant, applying a bio-psycho-social model.

Methods Explorative study based on patients included in the Transplant Cohort Study, a national, prospective, multicentric cohort, who underwent a first solid organ transplant (kidney, liver, heart, lung). Bio-psycho-social factors were tested and predictors of return to work identified using logistical regression models.

Results Among the 636 patients included in the study, 49.8% (317) were employed 12 months post transplant. The major predictor for returning to work 12 months post transplant was pre-transplant employment status (OR: 10.8). Accordingly, the population was stratified in employed and unemployed pre transplant groups. Age, self-perceived health (SPH, six months post-transplant) and the transplanted organ were significantly associated with post transplantation employment status in both groups. Additionally, return to work was influenced by education, depression (six month post-transplant) and waiting time in the employed pre transplant group and by invalidity pension in the unemployed pre transplant group.

Conclusion Employment rate pre transplant being highly associated with employment status post transplant, the process promoting return to work should be started well before surgery.

Poster Presentation

Respiratory

0277 SENSITIVITY AND SPECIFICITY OF OCCUPATIONAL HEALTH DOCTORS READING OF EARLY STAGE PNEUMOCONIOSIS RADIOGRAPHS

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Objective This study was aimed to find out the sensitivity and specificity in reading early stage pneumoconiosis radiographs by Occupational Health Doctors (OHDs).

Materials and method A screening test was applied. Thirty three of OHD consented to join the study. The test radiographs consisted of 67 normal and early stage pneumoconiosis films. Before testing, all participants were introduced to basic ILO reading for 65 min by 3 B-reader ILO pneumoconiosis experts. The cut-point for disease was set at profusion 0/1

and 1/0. Mean sensitivity and specificity for small opacities detection was analysed.

Results The median sensitivity of ILO profusion 0/1 or above was 88% (IQR 10.3), the median sensitivity of 1/0 cut-point film was slightly increase at 90% (IQR 10.3), while the mean specificity for ILO profusion 0/1 or above was 43.3% (SD 21.1). When stepping the cut-point to profusion 1/0, the mean specificity increased to 47.0% (SD 20.9).

Conclusion This study showed that OHDs were able to interpret chest radiographs of workers who have had early stage pneumoconiotic radiographs. Therefore, chest X-ray reading skill development for OHDs has value for the surveillance system in this country.

Poster Presentation

Disease Surveillance

0278 WORK RELATED CHARACTERISTICS OF LUNG CANCERS AMONG MALE CONSTRUCTION WORKERS: FOCUSING ON OCCUPATIONAL CANCER SURVEILLANCE DATA IN KOREA, 2011–2016

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The aim of this study is to examine occupational characteristics, hazardous work types and exposed substances in lung cancer in the construction industry by using data of occupational cancer surveillance at the national level in Korea.

From 2011 to 2016, there were 6418 patients with lung cancer were registered through the Occupational Cancer Surveillance. Among them, the F class of the Korean Standard Industrial Classification and male sex were a total of 580 patients. Work relatedness was divided into 'High' and 'Low'.

Focusing on work relatedness, 19.0% were high and 81.0% were low. There was no difference in the distribution of work relatedness and age groups ($p=0.525$) and total smoking amount ($p=0.903$) in lung cancers. There was a significant difference in the distribution of work relatedness and latency ($p=0.019$). The high prevalent 30 work types and 9 exposures high work relatedness in lung cancer. Painter of Painters (18.2%) were the most common hazardous material and job of followed by Crystalline silica in Elementary Workers (7.2%), and Crystalline silica in Stonemason (5.4%) in order.

Lung cancer occurred at younger ages in construction workers compared to non-construction workers. Smoking has no relation with the work relatedness of lung cancer. It is necessary to manage work type and risk factors that are highly related to cancer in the construction industry.

Poster Presentation

Other

0279 OCCUPATIONAL EXPOSURE TO DUST COMPONENTS AND ALTERATIONS IN IMMUNE/INFLAMMATION MARKERS AMONG TACONITE WORKERS IN MINNESOTA

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Background Occupational exposure to airborne silica, dust containing silica (total dust), and dust without silica (mostly iron oxide) have been known to cause cardio-respiratory disease. However, with dust exposure in general, disease detection usually occurs in advanced stages of the disease process, in part due to the lack of sensitivity of current diagnostic tools that would allow for earlier detection of the disease.

Methods Using a multiplexed bead-based assay, we measured plasma levels of 11 immune/inflammation markers in a cross-sectional study of 134 current workers employed in various operations in mining and processing of taconite (a low grade iron ore). These are markers previously demonstrated to be related to silica exposure and/or restrictive/obstructive lung disease in other settings. We used linear regression models to examine the associations between quartiles of silica, total dust, and dust without silica with levels of markers adjusting for age, BMI, gender, and smoking.

Results In adjusted models, of the 11 markers selected, C-reactive protein (CRP) had the strongest association and showed a graded response across quartiles of silica. Total dust and dust without silica had little association with these markers.

Conclusions This study suggests that exposure to silica, total dust, and dust without silica may be associated with alterations in CRP. Total dust and dust containing iron oxide, in general, do not demonstrate associations with other markers in our study. Further research is needed to understand the potential utility of CRP as a marker linking occupational exposures and health outcomes in taconite workers.

Poster Presentation

Injuries

0280 FACTORS ASSOCIATED WITH THE SEVERITY OF WORK INJURIES IN THE FORMAL SECTOR IN PIRACICABA, SÃO PAULO STATE, BRAZIL

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Introduction Work injuries represent a relevant public health issue. Evaluation of associated factors is an important tool for occupational health surveillance. We aimed to identify factors

associated with the severity of work injuries in Piracicaba from 2004–2013.

Methods This is a cross-sectional study and is part of "Work Accident: from socio-technical analysis towards the social construction of changes" supported by the São Paulo Research Foundation. Work injuries data were retrieved from the Work Accident Surveillance System (SIVAT) for formal workers with at least 18 years old for the period 2004–2013. Using a multiple logistic regression model, odds ratios (OR) and their 95% confidence intervals (CI95%) were calculated considering the severity of the injury (severe or fatal versus moderate and light) and selected variables (injury type, sex, age group). All analyses were done using STATA 13.1.

Results In the period 2004–2013, 78 198 work injuries occurred with formal workers in Piracicaba, being 1522 (1.92%) severe or fatal accident. In severe or fatal accident, the frequency was higher among workers from manufacturing industry (750;49%), followed by services (389;26%). Increased risk for severe and fatal injuries was found for men (OR=1.16 CI95%:1.01–1.33), route accident (OR=2.0; CI95%:1.77–2.26), and an upward trend in risk with increasing age (trend test: $p < 0.001$).

Conclusion Action plans to prevent workplace injuries and deaths should be designed considering that men at older ages working in manufacturing industry and in the service sectors are at increased risk. SIVAT represents an important tool to assess worker's health in the Piracicaba region and guide occupational health surveillance.

Oral Presentation

Disease Surveillance

0281 EVALUATING THE COMPLETENESS OF COMPULSORY WORK-RELATED DISEASES/INJURIES NOTIFICATIONS RECORDED BY THREE CITIES IN SOUTHEAST BRAZIL

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Introduction The Brazilian Notifiable Diseases Information System (SINAN) includes eleven work-related diseases and injuries (in nine forms), which communication is mandatory. As a way to evaluate the quality of this database, this study aimed to rate the completeness of information reported by three cities of the São Paulo State from 2007–2016.

Methods Descriptive study as part of 'Work Accident: from Socio-technical analysis towards the social construction of changes' supported by the São Paulo Research Foundation. Data from the work-related diseases and injuries forms were retrieved from SINAN for Araraquara, Campinas and Piracicaba for the period 2007–2016 (16 094 files). Completeness was assessed by the percentage of filled variables by form and city, and it were categorised as: excellent (<5% unfilled), good (≥5, <10% unfilled), regular (≥10, <20% unfilled), poor (≥20, <50% unfilled), and very poor (≥50% unfilled). Analyses