Carcinogens/Cancer

O-271 ROLE OF FATHER’S OCCUPATIONAL EXPOSURE IN THE GENESIS OF CHILDHOOD LEUKEMIA IN UNORGANIZED SECTORS: A CASE-CONTROL STUDY

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Introduction Due to industrial development, humans are exposed to more than 60,000 chemical substances. The majority of these substances are implicated in the genesis of cancers especially leukemias, in employees and even their descendants. We aim to identify father’s occupational factors implicated in the genesis of childhood acute leukemia in unorganized sectors.

Materials and Methods Case-control study carried out between July 2011, and June 2012. Cases were children with a confirmed diagnosis of acute leukemia. Controls were children consulting in the pediatric department. One control was matched to each case for age and gender. A questionnaire on lifetime job history was administered to all the fathers.

Results We enrolled 66 cases of acute leukemia and 66 controls. A predominance of boys was noticed (sex ratio: 1.53). The average age of the cases was 7.83 ± 3.48 years versus 7.80 ± 3.57 years for the controls. The diagnosis was an acute lymphoblastic leukemia in 59 patients (89.4%). The cases’ fathers had exercised mainly in the building and public works (24.2%) versus 16.7% in the control group; and in agriculture (15.2% versus 9.1%) without a statistically significant difference (p = 0.3). After multivariate analysis, childhood acute leukemia’s risk of occurrence was higher when fathers were exposed to pesticides (pa = 0.01, ORa =3.75, IC 95% = [1.27 – 11.03] and cement (pa = 0.03, ORa = 2.67, IC 95% = [1.06 – 6.7]). The majority of the cases’ fathers (72.7%) were exposed before and during their wives’ pregnancies versus 48.5% among the controls’ fathers with a statistically significant difference (p = 0.003).

Conclusion The occupational risk factors in unorganized sectors might play a role in the etiopathogenesis of acute leukemia in descendants. With regard to our study, pesticides and cement seem to be most implicated and necessitate suitable preventive measures.

Disease surveillance

O-297 FINDINGS AND EXPERIENCES FROM THE PAPER-BASED OCCUPATIONAL DISEASE AND INJURY REGISTRY IN INDIA

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Introduction Occupational noise exposure has, in previous studies, been associated with public health diseases. To establish an association, however, high-quality quantitative exposure assessment is needed. The aim of this study was to develop a quantitative European job-exposure matrix (JEM) for occupational noise exposure to be used in exposure-response analyses in epidemiological studies.

Materials and Methods A literature search of available Job Exposure Matrices (JEMs) across Europe, resulted in the conclusion that only the Swedish SweJEM and the Danish DOC*IX were eligible for inclusion in a quantitative JEM. Both JEMs were based on measurements. An existing dataset of 1344 measurements in ISCO-88(COM) was available in the Danish team. The 4107 Swedish measurements were first entered manually into a database and were then translated from NYK83 to ISCO-88(COM). All measurements were then merged into a joint database. Separate expert judgements of occupational noise exposure are also available for both JEMs. These were expressed in five categories: <70, 70–74, 75–79, 80–84, ≥85 dBA in Sweden and three categories: <80, 80–84, ≥85dBA in Denmark. The expert judgements were harmonized, with decisions made based on previous knowledge of the occupational settings and measurements of noise exposure for the occupation in question. The database with measurements and the database with expert assessments were merged, to set an occupational noise level for occupations where measurements were lacking. An expert assessment of the exposed occupations in the joint JEM concluded that the noise levels should be comparable across Europe.

Results and Conclusions A quantitative noise JEM in LAg1000 h dBA for each of the 372 jobs described by ISCO-88(COM) was constructed. This JEM can be used to assess noise exposure in European epidemiological studies. This JEM will be part of EuroJEM which is being developed for harmonized assessment of several exposures in the EU EPHOR project.

Other exposures

O-290 OCCUPATIONAL NOISE JEM DEVELOPMENT WITHIN EUROPEAN JOB-EXPOSURE MATRIX (EUROJEM), EU EXPOSESOME PROJECT EXPOSESOME PROJECT FOR HEALTH AND OCCUPATIONAL RESEARCH (EPHOR)

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Introduction For effective prevention of occupational disease and injuries, accurate and timely reporting on the occurrence of occupational disease and injuries is critical. Disease and patient registries have been proven a rich sources of information for improvement in decision making health areas. Currently, there is no such accessible database in OSH domain in India. In view of unavailability of any national or regional database for occupational diseases and injuries, a paper-based registry was initiated at Employees State Insurance Corporation (ESIC) Model Hospital, Ahmedabad situated in highly industrialized state in India.

Material and Methods The study involves hospital-based surveillance for disease and injuries among admitted (In-Patient Department) workers at ESIC hospital. The paper-based registry was initiated in December 2018 at ESIC Model Hospital,
Ahmedabad which is administered by Employees’ State Insurance Corporation, Ministry of Labour. The data was collected from 600 workers using a pre-structured questionnaire.

**Results & Conclusion**

Maximum hospitalizations of workers were related to respiratory (34.83%) and cardiovascular (12.33%) illnesses. Nearly 10% workers reported with problems related to musculoskeletal disorders (MSD), among whom lower back pain was the highly prevalent problem. Injury (non-fatal) at the workplace was recorded as 6.6% among hospitalized workers. Most of the injuries were in form of bone fractures (42.50%) of lower extremities and burn (22.50%) while performing duties at workplace. The median absenteeism for the hospitalized workers was found to be 11 (1, 41) days. Data revealed that compliance and knowledge of safety measures was low among injured workers, nearly half of injured workers were not using safety gears or had proper knowledge of preventive measures. These workers were engaged in work continuously for more than 8 hours before injury. A large number of hospitalized workers reported a noisy environment (60.16%) at workplace, and nearly 65.50% workers reported the presence of dust/odour/smoke, and excessive heat at work environment.

**COVID 19**

**O-308**

**COMPARATIVE ASSESSMENT OF MUSCULOSKELETAL PAIN AMONG ARTISANS OF THREE HANDICRAFT SECTORS OF INDIA BECAUSE OF COMMERCIALIZATION – A STUDY ON UNORGANIZED SECTOR**

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**Introduction**

Demand of Indian handicraft products is increasing consistently over the last couple of years globally due to its uniqueness and beauty. Handicraft sector is the second largest employment generator after agriculture in India. The sector functions on a self-sustaining business model. According to official record, India is home to 7 million artisans. With the advent of online portals and government initiatives there is a bolstering market growth of handicraft sector which lead to rapid change in the work culture from domestic to commercialization. Work practice has changed but the workplace and workstations remain the same. Long duration of work, in traditional work environment led to the development of musculoskeletal problems among the artisans. The present study was conducted on three handicraft sector of India, hand-block textile printing, Bell metal handicraft and marble carving sector to find out the effect of commercialization on occupational health of the artisans.

**Method**

10 artisans each from three sectors: Bagh print, Dhokra handicraft and Bedagh soft marble carving were selected for the study. A modified Boston hand evaluation questionnaire was used to measure the hand symptoms for occupational musculoskeletal risks. Direct observation was further used to understand the risk involved in the task.

**Result**

Artisans working in Bagh print reported significantly higher percentages of symptoms of Lost sensitivity and tingling, whereas artisans working in Dhokra handicraft had higher reports of weakness than the other two occupations. Pain during working hours were seen among all the three occupational groups, with the highest reports among marble carving artisans.

**Conclusion**

High symptoms of hand pain were seen in all the three sectors involving repetitive intricate tasks. The symptoms of lost sensitivity were seen to be associated with high force exertion which was seen among the artisans of Bagh print and marble carving.

**COVID 19**

**O-309**

**RISK FOR HOSPITALIZATION DUE TO COVID-19 IN RELATION TO OCCUPATIONAL EXPOSURES AS ESTIMATED BY TWO DIFFERENT JOB-EXPOSURE MATRICES**

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