Carcinogens/Cancer

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. A predominance of boys was noticed (sex ratio: 1.53).

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

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 DOCX 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, ≥85 dBA 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 LAeq,8h 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

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,