Oral Presentation

Injuries

0115 GENDER AND PROPORTIONATE MORTALITY BY ACUTE OCCUPATIONAL PESTICIDES POISONING AMONG AGRICULTURAL WORKERS IN BRAZIL

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To identify gender-related differences in proportionate mortality estimates of acute occupational pesticides poisoning among farmer workers in Brazil. This is a proportionate mortality study, carried out with work-related injuries deaths, which occurred with farmer workers from 16 to 70 years of age, focusing acute occupational pesticide poisoning. Data were from the Brazilian Mortality Information System (SIM) from 2000 to 2013. Potential associated factors were age group, skin colour, marital status, education and country region. Estimates of proportionate mortality odds ratio of work-related acute pesticide poisoning was association the measure.

There were 6754 work-related injuries deaths among agricultural workers, 643 caused by occupational acute pesticide poisoning, a proportionate mortality of 9.5%, higher among women (n=65; 24.9%) compared with men (n=578; 8.9%) in general, and for all categories of potential associated factors. The contribution of work-related fatal pesticide poisoning relative to all occupational injuries among farmer women was higher when they were under 30 years of age, had brown or black skin colour, lived in the poorest regions of the country and the injury occurred during summer. Distinctively, males had relative excess of cases when were older, white, single or married, better education and the death occurred in all seasons but winter. Work-related deaths caused by pesticide poisoning are preventable and should not occur or be a very rare event as described in developing countries. The widespread use of pesticides in agriculture in Brazil warns to implement safer practices for all, targeting the growing number of women labour force, and young workers expressive in rural areas.

Oral Presentation

Cancer

0116 EVIDENCE OF DOSE-RESPONSE IN THE CAUSATION OF MESOTHELIOMA FROM ENVIRONMENTAL EXPOSURE

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We investigated the relation between cumulative asbestos exposure and pleural malignant mesothelioma (PMM) in areas with environmental asbestos exposure from human activities and asbestos material in place, using our studies and a literature review.

Casale Monferrato (NW Italy) presents high PMM incidence caused by asbestos contamination at work and in the general environment from the asbestos cement Eternit plant that operated until 1986. A population-based case-control study including PMM diagnosed between January 2001 and June 2006 (200 PMM and 348 controls) observed among subjects never occupationally exposed a dose response relationship consistent with that caused by occupational exposures, based on individual assessment of environmental and domestic exposures. ORs were 3.8 (CI 95% 1.3 to 11.1) for cumulative exposure from ≥0.1 to<1 f/ml-year, 14.8 (5.7 to 38.6) for ≥1–<10 f/ml-y and 23.3 (CI 95% 2.9 to 186.9) for >10 f/ml-y (reference: background level of asbestos exposure). ORs of about 2, statistically significant, were observed for domestic exposure and for living in houses near buildings with large asbestos cement parts.

Similar trends were observed in other studies that explored the dose response relationship in the low dose range (Iwatsubo et al 1998, Rodelsperger et al 2001, Lacourt et al 2014).

PMM risk increased with cumulative asbestos exposure in analyses limited to subjects non-occupationally exposed and in the environmental exposure range. These results provide indication of risk associated with common sources of environmental exposure and are highly relevant for the evaluation of residual risk after the cessation of asbestos industrial use.

Poster Presentation

Respiratory

0117 PERFORMANCE EVALUATION OF N95 RESPIRATOR AFFECTING FACTORS

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This study was to test the filtration efficiency and breathing resistance of N95 respirators of different storage periods using the most penetrating particle size aerosol by automated filter tester (TSI, model 8130). quality factor (q_f) was calculated to access possible effects of storage conditions and disinfection methods such as autoclaving and Gamma irradiation on the electric quality of fibres of the respirators.

The analysis of N95 respirators with different storage conditions revealed that: A statistical difference (p=0.0453) was noted in aerosol filtration among N95 respirators of various storage periods, and the penetration was lower in respirators within the valid date compared with those expired respirators. There was also a statistical significance (p=0.0082) in breathing resistance among various storage periods. Autoclaving method of disinfection increased penetration, but decreased q_f in respirators within valid dates when compared with those without disinfection. The dosage of 10 kGY, 25 kGY or 30 kGY Gamma irradiation also increased penetration, resistance and decreased q_f. There was no significant difference on penetration, resistance and q_f between respirators within or outside the valid dates when they were treated with the same