application method. We calculated the exposure intensity level based on application method and use of personal protective equipment. ORs and 95% CIs were estimated by unconditional logistic regression analyses and adjusted for several potential confounders.

**Results** 293 case and 5198 control subjects were interviewed. We did not identify positive associations with activities in farming or forestry, pesticide application or pesticide mixing. No consistent positive associations were seen with exposure intensity level scores either. The only statistically significantly raised association in this study was for exposure to chemical fertilisers in forestry (OR 8.93; 95% CI 1.73 to 42.13), but this observation was based on only six exposed subjects. Results did not change when we restricted analyses to morphologically verified cases and excluded proxy interviews as well as cancer controls. We did not observe effect modification by sex or eye colour.

**Conclusion** Risk estimates for pesticide exposures and occupational activities in agriculture and forestry were not increased and did not indicate a hormonal mechanism due to these exposures. The possible risk increase associated with exposure to chemical fertilisers should be reinvestigated in future studies.

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**ANAEMIA IN PREGNANT WOMEN ASSISTED BY PUBLIC HEALTHCARE SERVICES OF THE FIVE BRAZILIAN REGIONS BEFORE AND AFTER THE POLICY OF FORTIFICATION OF FLOURS WITH IRON**

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**Introduction** Poisoning is the 4th leading cause of unintentional injury in children aged under-5 years. The study objective was to determine the factors associated with unintentional poisoning among children under-5 years of age, reporting to emergency rooms (ERs) of tertiary care hospitals in Karachi, Pakistan.

**Methods** A matched case-control study was conducted on 120 cases and 360 controls. Children with unintentional poisoning were included in the study as cases. For each case three control children matched for age and gender with complaints and diagnosis other than poisoning were selected from the same hospitals ER within 48 h of case identification. Parents were interviewed using structured questionnaires containing information on socio-demographic factors, child’s behaviour, and storage practices. Conditional logistic regression was performed to analyse the data.

**Results** Accessibility to hazardous chemicals and medicines due to unsafe storage (OR 5.6, 95% CI 1.9 to 16.7), child’s behaviour reported as hyperactive (OR 8.2, 95% CI 4.6 to 16.1), storage of kerosene oil and petrol in soft drink bottles (OR 3.8, 95% CI 2.0 to 7.3), low socio-economic status (OR 9.2, 95% CI 2.8 to 30.1), low mothers educational status (OR 4.2, 95% CI 1.8 to 9.6) and history of previous poisoning (OR 8.6, 95% CI 1.7 to 43.5) were all independently related to unintentional poisoning.

**Conclusion** The factors associated with unintentional poisoning in young children are modifiable Key health messages on the safe storage of chemicals and medicines and the use of child resistant containers may help in decreasing the burden of childhood poisoning.

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**PREDICTORS OF UNINTENTIONAL POISONING AMONG CHILDREN UNDER-5 YEARS OF AGE IN KARACHI: A MATCHED CASE-CONTROL STUDY**

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**Introduction** Alcohol consumption and smoking have being common health problems globally including Mongolia. The objective of this survey was to examine the epidemiology of alcohol consumption and cigarette smoking in the elder population of Mongolia.

**Methods** A cross-sectional study was carried covering urban and rural areas in Mongolia and used a standardised questionnaire according to WHO STEPwise approach to surveillance manual.

**Results** A total of 2250 people completed the study. The prevalence of smoking was 24.0% with significantly more in males (50.5%) as compared to in females (8.3%) (p=0.0001). Among smokers, mean age of initiation to smoking was 23.5 (±7.9) years and this was differed by sex whereas males started smoking at the age of 21.1 (±7.8) years and females started smoking at the age of 30.2 (±11.0) years. Mean number of cigarettes smoked per day was 11.1 (±7.8) among current daily smokers. Men smoked 12.3 (±8.1) cigarettes daily and women smoked 8.1 (±6.5) cigarettes daily. About six out of ten people using alcohol in last 12 months (60.3%). Alcohol consumption was different in gender (in men 75.6%, women 51.2%), in age group (in age 40–44 was 67.0%, in age above 60 was 45.1%) and in education level (in primary education 27.7%, in master degree 74.5%). Binge drinking was 19.6% in participants and different by sex (in men 54.2%, in women 10.8%, p=0.0001) and location (in rural 24.1%, urban 16.2%).
Conclusions Alcohol consumption and cigarette smoking were different by gender, residence and education level in Mongolian adults.

Results Of 1794 children who participated in a medical check-up at 3 years of age, 1640 (91.4%) were not overweight at 3 years and were followed-up until they were 9 or 10 years old. The number of children in each category of sleep duration, that is, ≤9 h, 9–10 h, 10–11 h, and ≥11 h, was 66 (3.7%), 609 (34.0%), 847 (47.2%), and 271 (15.1%), respectively. BMI z-scores increased with increase in age (p=0.03) for boys with a short sleep duration (<9 h). On the other hand, sleep duration was not significantly associated with BMI z-score in girls.

Conclusions It was suggested that there is gender difference of the effect of childhood sleep duration on subsequent overweight.

Introduction Short sleep duration in early life has been thought to be a risk factor for subsequent overweight. This study aimed to examine the relation between sleep duration at 3 years of age and childhood weight status through a multi-level analysis.

Methods The study population comprised children born between 1 April 1991, and 31 March 2003, in Koshu City, Japan, and who participated in a medical check-up at 3 years of age. Short and long sleep durations at 3 years of age were the exposures studied. We compared the trajectory of body mass index (BMI) z-scores from 3 to 9 years of age in exposed and non-exposed participants. Random intercepts and slopes model (SAS Proc Mixed) was used for statistical analysis.

Results Of 1794 children who participated in a medical check-up at 3 years of age, 1640 (91.4%) were not overweight at 3 years and were followed-up until they were 9 or 10 years old. The number of children in each category of sleep duration, that is, ≤9 h, 9–10 h, 10–11 h, and ≥11 h, was 66 (3.7%), 609 (34.0%), 847 (47.2%), and 271 (15.1%), respectively. BMI z-scores increased with increase in age (p=0.03) for boys with a short sleep duration (<9 h). On the other hand, sleep duration was not significantly associated with BMI z-score in girls.

Conclusions It was suggested that there is gender difference of the effect of childhood sleep duration on subsequent overweight.

Introduction The incidence of breast cancer is continuously increasing in Japan. The early life exposures such as being breastfed in infancy have been hypothesised to influence subsequent breast cancer risk.

Methods We investigated the relationship between having been breastfed and breast cancer risk in a hospital-based case-control study of women aged 30 and over (573 breast cancer cases and 2155 cancer-free controls). Data on reproductive factors, lifestyle, and history of having been breastfed were collected using a self-administered questionnaire.

Results and Conclusion After adjustment for known risk factors of breast cancer, no association for having been breastfed was observed overall (OR 1.20; 95% CI 0.82 to 1.75). Analysis stratified according to birth year (<1950, ≥1950) demonstrated heterogeneity in the association of having been breastfed with breast cancer risk between the two birth-year groups (p for interaction =0.0006; having been breastfed was associated with a decreased risk among women born before 1950 (OR 0.59, 95% CI 0.35 to 0.99), whereas it was associated with an increased risk among women born after 1950 (OR 1.65, 95% CI 0.91 to 2.98). These findings indicate that early nutrition has some effect on breast cancer risk. In Japan, the use of standard formula supplement began to spread around 1950. Endocrine disrupters such as organochlorines were also introduced to the food chain at around the same time. The heterogeneity of breast cancer risk between the two birth-year groups may therefore be attributable to these environmental changes related to infant feeding.