

The Prevalence of Poisoning among Children in Shiraz, southern Iran

Dear Editor,

Availability of chemicals and medications has exposed man to potential poisons and unfortunately children are the most victims.¹ According to reports from American Association of Poison Control Center (AAPCC), there were about 2.5 million toxic exposures in children and adolescents in 2007 in America.² The aim of this study is to determine the prevalence of poisoning among children in relation to age, gender, route of exposure, and other factors. Four-hundred and sixty-three poisoned children who had been admitted in the Pediatric Emergency Department of Nemazee and Shahid Dastgheib hospitals affiliated to Shiraz University of Medical Sciences in Shiraz, southern Iran were enrolled. Among them, 239 were male and 224 female, and 67.4% were 5 years old or younger. The data for the study were collected from the patients' records.

In 94% of cases, the route of poisoning was ingestion, in 5%, inhalation and in 1%, injection. Medications were the most cause of poisoning (54%) and benzodiazepines accounting for 21% of them. 76.2% of the cases used the poison unintentionally, 15.8% as suicidal attempts, and 8% as toxic agent for treatment of diarrhea or irritability. Most of the cases were under 1 year old.

The most common setting was home (88%) and the most common time was from 12 to 6 pm (36%). Only 16.8% of the children were transferred to hospitals in less than 1 hour after poisoning, while in 57.2% of the cases the delay in seeking treatment was 1-6 hours, in 14.9%, 6-12 hours, and in 5.6%, more than 12 hours. In 5.4% of the cases, the time was not mentioned. Twenty five percent of cases had no clinical findings. The most common clinical findings were somnolence and disorientation (32%). Twelve percent had decreased level of consciousness; 8% presented with nausea, vomiting and abdominal pain; 6.5% had myosis and hypopnea; 6.5% presented with fever, tachycardia, tachypnea and irritability. Seizure was seen in 6% of the cases. 17.5% of the cases were only observed in the emergency rooms with no intervention. For 47% of the cases, primary cares such as gastric lavage, administration of charcoal or laxative were carried out. Thirty three percent of the cases

needed toxin specific antidotes like naloxane, N-acetyl cysteine and atropine or flumazenil. For 2% of the children, bronchoscopy or endoscopy was performed and 0.5% of them underwent an operation. Sixty-nine percent of the cases were hospitalized for less than one day and 31% had a longer stay. Eighty two percent of the cases recovered completely, 16% left the hospital with release sheet but good medical condition, and 2% expired.

In several studies,^{1,3} children younger than five years of age were the most victims of poisoning, ingestion being the most common route, as in our study. The reason might most likely be the curiosity of children on their surroundings and ingesting the things they find.

In our study, 88% of the exposures occurred at home. In another report in Iran, children under five years of age were also reported as the largest injured group at home.⁴ In America, home was the most common place for children's unintentional injury which caused four million emergency department visits each year.⁵ Many products were reported as available materials for children such as cleaning substances stored under the sink of kitchens or stored bottles without any alarming labels.¹

Medicines accounted for poisoning in 54% of the cases in our study and in another study they were responsible for 44.2% of the cases, analgesics being the most frequent ones,³ but in the United States² and European countries,¹ household cosmetics and cleaning products were ingested more frequently by children under 6 years old. In Iran, most of the medicines with attractive color and taste can be taken easily by young children instead of candy but in developing countries, child resistance containers and educational programs helped to reduce the drug poisoning.⁶

This study showed that only a few children presented in hospital on time. There is a need for poison control centers with 24-hour on-call personnel in Iran. Availability of these centers significantly improves the outcome of patients and decreases the number of patients going to emergency rooms because these centers can direct many patients on phone. It seems that children's poisoning is a major problem in Iran and primary care providers has a great responsibility

in the implementation of educational and preventive programs to increase the public's knowledge about poisonous products at home, their storage in a safe place, and proper intervention in the case of poisoning.

Keywords: Poisoning; Children; Prevalence; Iran

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