



Epidemiological and Clinical Features of Acute Poisoning in Children in a Referral Teaching Hospital in Iran, 2015 - 2018

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Abstract

Background: Poisoning is one of the most common medical emergencies in young children. Substantial differences in socio-economic and cultural situations cause various epidemiological patterns of acute poisoning with different poisonous agents.

Objectives: We aimed to determine the extent of pediatric poisoning in a referral teaching hospital in the center of Iran.

Methods: The electronic database of Qods Children Hospital in Qazvin, Iran, was searched for children younger than 12 years old and referred for acute poisoning from 2015 to 2018. The cases (n = 184) were classified according to their age, gender, symptoms at the time of admission, the toxins, and their types.

Results: The frequency of poisoning in boys was more than girls (M/F = 1.49). The mean age of the patients was 3.4 years, and the average length of stay in hospital was 1.3 days. Children poisoned with petroleum products had the highest average stay (3.10 days). Although more than 65 agents were identified as the poisoning agents, narcotics were the most common category (n = 62, 33.7%), and methadone was the most common agent in our study (n = 46, 25%). Central nervous system symptoms were recorded more than other signs and symptoms on admission or during the stay. Only two patients (1.1%) had been discharged with complications.

Conclusions: With predominance for boys, most of the children had toxicity with medications. Methadone, other narcotics, and psychotropic medications were the most common agents that indicate a need for more severe control and education for prevention from poisoning in children.

Keywords: Poisoning, Child, Narcotics, Epidemiology

1. Background

Poisoning is one of the most common medical emergencies in young children (1). In a report by the American Association of Poison Control centers (AAPCC), more than 50% of poisoning cases occur in children smaller than six years old. Almost all cases are unintentional and may reflect the propensity of young children to put almost everything in their mouth (2). At-risk children are mostly between one and four years old, male, rather hyperactive, and have increased finger-mouth activity and/or pica. Poisoning is less common in children 6 - 12 years old, and only 6% of all reported pediatric exposures have been reported in this age range. Adolescents are the next vulnerable group, with mainly intentional poisoning and often resulting in more severe toxicity (2).

Acute poisoning is an injury, in which the toxic effect occurs almost immediately, usually within hours (3). Morbidity and mortality of poisoning are going to become a

major public health issue in many countries (4). It is estimated that some poisons are responsible for more than one million annual sicknesses worldwide (5).

The world health organization (WHO) estimates that the global number of acute unintentional poisonings ranges from 2 - 3 million cases annually, of which one million cases are severe resulting in 20,000 deaths yearly, while the expected annual intentional poisoning number is about two million resulting in 200,000 suicides (6,7).

A recent report by the AAPCC's National Poison Data System (NPDS) showed that cases with serious outcomes have increased by 4.6% from 2000 to 2012 (8). Up to 6.4% of children with acute poisoning who visit the emergency departments are hospitalized (9).

Different agents cause pediatric poisoning. According to the research in Mashhad (northeast) and Arak (center of Iran), narcotics (opium and methadone) and benzodiazepines were the most common agents, respectively (10, 11). More reports from different provinces also reveal the