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The causes of poisoning in children under 14 years old referred to Amir al-Momenin Ali hospital, Zabol, Iran

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ABSTRACT

Introduction: children poisoning is one the most common pediatric emergencies. The aim of this study was to find out the causes of poisoning in patients under 14 years old who were referred to Amir Al-Momenin Ali Hospital in Zabol in 2017. *Methods:* This cross-sectional study was performed in Amir al-Momenin Ali hospital in Zabol. The samples were poisoned children under the age of 15

years old who referred to the emergency department. Data was collected by a physician through parents' interviews and a physical examination. Data were analyzed using SPSS 20. *Results:* Of the 40 cases who admitted to emergency department, 52.5% were above 10 years old. The most common causes of admission and hospitalization of children under the age of 10 years were organophosphorus poisoning (17.5%), then the incidental taking pill (10%), poisoning with detergents (7.5%), and taking of narcotic drugs by the parents to the child (7.5%). Taking drugs was the most common cause of poising (45%) in children above 10 years old. *Conclusion:* Increasing the information and awareness of parents about how to use and consume the drugs, how to store the drugs, the unavailability of organophosphorus, detergent, bleach, and petroleum in children is very important.

Keywords: Children, Drug, Poisoning

1. INTRODUCTION

Poisoning is one of the most important medical emergencies and the most common reasons for referring to emergency departments (ED) and treatment centers. Annually, a large number of people suffer from poisoning, with a wide range of illnesses from mild illnesses to hospitalize in intensive care units (ICUs) and death (Hasti Ansari Ashlaghi et al. 2018). This imposes a lot of economic, physical and psychological burdens on individuals, families and society (Shayeste et al., 2017). Poison is a substance that can cause damage or disturbance through chemical functions in the body. Poisons enter the body in various methods, such as oral, inhalation, and injection (Mahmudi et al., 2013). Acute intoxication can be intentional or unintentional. Unintentional or accidental poisoning is common in children and leads in increasing morbidity and mortality during childhood, while more intentional poisoning occurs in adults that can be a suicidal attempt (Sawalha et al., 2010). The children put every available object in the mouth for curiosity and older children use these materials for suicide. Although sometimes these poisons are given to children (Torkashvand et al., 2015). Various materials can cause poisoning in children, which most of them are household chemicals, including detergents and bleach, industrial pesticides, narcotics and plant compounds (Shadnia et al., 2013). Studies shows the most common poisonous substances are drugs e.g. benzodiazepines and tramadol (Nikvarz et al., 2017, Shokrzadeh et al., 2018).

Treatment of poisoning in children includes cardio-respiratory support, preventing the absorption, removing poisons from the body with laxative medicine (sorbitol) and using antidotes (Sharaki et al., 2010). Therefore, considering the cost and mortality rate due to poisoning almost occur everywhere in the world, identifying the causes of poisoning can be helpful in appropriate treatment of patients and more favorable planning for poisoning prevention. As the causes of poisonings vary in different areas, thus, this study was carried out to investigate the causes of poisoning in patients under 14 years old who were referred to Amir Al-Momenin Ali Hospital in Zabol in 2017.

2. MATERIAL AND METHODS

This cross-sectional study was carried out in emergency department of Amir al-Momenin Ali hospital in Zabol, Iran. The samples were children under the age of 14 years old. Patients' information included age, sex, type of toxic substance, location, clinical signs at the time of entry, drug use route, and drug dose. The information was collected by a legal physician through parents' interviews and a physical examination from January to December 2017. Afterward, the information was entered in a checklist that was developed for the study purpose. The ethical approval was achieved from the research committee (IR.ZBMU.REC.1398.017). Finally the collected data were entered in SPSS 20 .0 and analyzed using descriptive statistics.

3. RESULTS

Of the 40 patients admitted to the ED, 57.5% were female and 52.5% were above 10 years old. In terms of the location, 72.5% of intoxicated children were from rural population and the others were from urban population. Children under the age of 10 years were referred to the ED of the hospital after 1-2 hours after taking the pills. The children above 10 years were referred after 3-4 hours of taking drugs. In children under 10 years old, the cause of taking drugs was unintentional. However, in children over 10 years old, using drugs were for suicide attempts. None of the samples had a history of hospitalization.

The most common causes poisoning in children under the age of 10 years were organophosphorus (17.5%), incidental taking pill (10%), detergents (7.5%), taking of narcotic drugs by the parents to the child (7.5%), oil poisoning (7.5%) and carbon monoxide (5%)

(Figure 1). Signs of poisoning with organophosphorous substances at the entrance to the ED were nausea, vomiting, and sialorrhea. In the case of unintentional taking drugs and drug abuse, the sign was decrease in level of conscious (LOC).

The most common causes poisoning in children above 10 years old were taking drugs (45%). The most common type of taking pill was narcotic and sedative drugs such as Diazepam, Clonazepam, Alprazolam and chlordiazpoxid, and psychotic tablets i.e., Amitriptyline, and Largactil. Decreased LOC was common in intoxicated children at the time of entrance to the ED.

In terms of treatment, the first therapeutic action was taken in dealing with poisoning according to the kind were cardiovascular and respiratory supportive cares at ED. All patients were discharged with recovery symptoms.

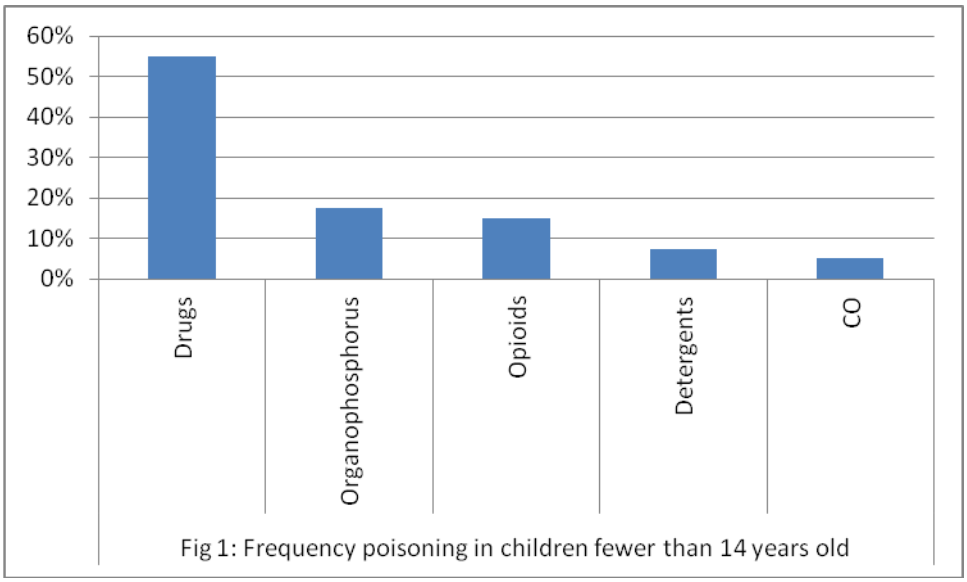

Figure 1 Frequency poisoning in children fewer than 14 years old

4. DISCUSSION

The findings of this study showed that the most common causes of poisoning in children under the age of 10 years were organophosphorous poisoning, then taking pills and in next detergent poisoning . Most of this poisoning was occurred in children under the age of 5 years old. They are more at risk of accidental poisoning because of their exploratory nature and they have imitation of adults. Children 1-5 years old tend to put everything in their mouths, which can be known to be one of the most important reasons for the high level of poisoning incidence in this age group. The previous studies show that most of poisoning is accidental in 10 years old children and about three quarters of poisoning cases had occurred in children less than five years old (Sawalha et al., 2010, Talebian et al., 2006). Incidence and type of poisoning is different in country. Over all, the most common cause of poisoning were drugs toxicity (Talebian, 2006, Ghorashi et al., 2003, Mehdizadeh et al., 2015), petroleum (Talebian, 2006 et al., Ghorashi et al., 2003), and organophosphates (Ghorashi et al., 2003).

In current research, the most common causes of poisoning in children over 10 years were drug toxicity (intentional pill intake) who had suicide attempts. In a study, the results showed that unintentional poisoning (95%), intentional poisoning (5%) and mostly suicidal attempts have occurred in children over the age of 10 years (Ghorashi et al., 2003). Benzodiazepines are the most commonly used drugs (Shokrzadeh et al., 2018, Mehdizadeh et al., 2015, Carlston et al., 1999, Cattell et al., 1995), which are in line with our study. Besides, antidepressants, NSAIDs, and sedative drugs are used for suicide attempts (Carlston et al., 1999).

5. CONCLUSION

It is suggested that the necessary information should be given to parents and children care givers about the kinds of poisoning, especially drugs and organophosphorus substances, drug storage, and keeping away of these substances from children. Besides, mental health education should be offer to the children.

Competing interest

There is no any conflict of interest among authors.

Financial resources

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