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The Survey of causes of poisoning in children referred to emergency ward of hospital: A narrative review

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Accidental ingestion of poisons in children is an important health problem all over the world. Recognition of the current etiologies of poisonings may be helpful in adoption of strategies for their prevention and prophylactic therapy. In this narrative review study, papers and dissertations were collected without time and language limits from international electronic databases in Google Scholar, PubMed, Science Direct, Web of Science, Ovid, Medline and WHO site, and Iranian scientific databases including: Barakatks, SID, Civilica, Magiran, and Medlib using appropriate keywords from 1998 to 2018. Finally, 38 sources were selected and criticized, interpreted and analyzed. Informing parents about hazardous materials, which need to be kept out of reach of children seems to be helpful in reducing occurrences of poisonings and their subsequent complications.

Keywords: Poisoning, Children, Emergency, Iran

INTRODUCTION

Poisoning is one of the most common causes for hospital emergencies in many countries. The occurrence of different types of poisoning is different according to the cultural and economic characteristics of different communities. Poisoning is one of the most important health issues in the world (Sahin et al., 2011). Poisoning, either deliberately or accidentally, is one of the relatively common causes of medical emergencies. The occurrence of this condition in children in most cases is due to a sense of curiosity in them and inappropriate maintenance of drugs and toxins in the home (Lin et al., 2011). But the prevalence of acute childhood poisoning in each region varies due to cultural, economic and social differences. Increasing the production and distribution of new

drug and chemical products will change the prevalence of poisoning agents (Loukova et al., 2011). The prevalence of poisoning is increasing in developing countries and in developing countries, with around 8.2 million people in the United States poisoned annually and 1.6 million of them are children, mostly under the age of 6 years. 4). In a study of 5520 poisoned patients, 1,805 cases were reported in children under the age of 5 years and the most common 1-3 year olds were poisoned, and the most common type of poisoning was medication (Mintegi et al., 2014). The pattern of poisoning in a country depends on a variety of factors, including access to various toxins, the social, economic, cultural and religious beliefs of the community. Over the past few decades, due to great advances in agriculture,

pharmacology and industrial technology, significant changes in pattern Acute intoxication has been created (Gheshlaghi et al., 2013). In developed countries, household chemicals and prescription drugs are the most common cause of poisoning, while in developing countries, agricultural chemicals such as pesticides have a greater role in poisoning (Sadeghi-Bojd et al., 2014). Poisoning in developing countries is an important health problem that poses a threat to health and the cause of hospitalization for a large number of people in the hospital, with a high financial burden on patients and a high burden on hospital care (Hosseininassab et al., 2016). Awareness of the pattern of poisoning in a specific region will play a role in identifying risk factors and early detection of poisoning. Also, understanding the pattern of poisoning in designing strategies to prevent suicide and reducing the risks of accidental poisoning in children will be helpful (Ghasemi et al., 2017). Considering the necessity of investigating the factors causing poisoning in children referred to the emergency department of hospitals and recognizing the approach to reduce the exposure to these factors, the present study has been conducted to address the causes of poisoning in children referred to the emergency department.

MATERIALS AND METHODS

In this study, a narrative review was conducted using keywords including poisoning, children, emergency services, and Iran through search in international scientific databases including Pub Med, Web of Science, Google Scholar, Scopus, Elsevier, and internal scientific foundations including: Barakatks, Scientific Information Database of Jihad University, Iranian Medical Library (medlib), Magiran Publications Database, Knowledge reference (civilica) and search on the WHO site. A total of 95 scientific sources including books, articles, theses and reports that were published in Persian and English in poisoning, children, and emergency medicine in Iran from 1998 to 2018 were collected. It turned out Unrelated sources and articles were deleted and the resources related to our review were studied. Finally, 62 articles and scientific sources were selected and analyzed according to the purpose of the study and according to the needs of 38 articles.

Findings

1,3 Child poisoning

In the study, it was found that poisoning causes a high number of visits to emergency departments, which accounts for about 1 percent of hospitalizations per year for children. Random cases in the age group of 5-1 years old are the most common cause of poisoning and over-curiosity of young children and careless adults who make available drugs and household chemicals (Gheshlaghi et al., 2013).

2.3 Childhood Poisoning Factors

Over-the-counter medications (poisoning) are often accompanied by suicide attempts. In most cases, swallowing is a coincidence that most of them occur at home and sometimes do not cause symptoms or have very mild symptoms. In one percent of cases it is deadly. Osmotherm in children is often due to various drugs, hydrocarbons such as oil, bleach solutions, vegetable pesticides, insecticides and cosmetics, and occurs in most cases through eating toxic substances. (Table 1). There are many studies about these factors in different parts of the world that have different outcomes. In many studies, drugs have been the most common cause of poisoning in children (Sobhani et al., 2000).

3 Child poisoning classification

Poisoning in children can be categorized into two groups: 1. Randomized mucositis which is most prevalent in the under-five age group, especially children who are beginning to move. This poisoning can be due to chemicals such as drugs, insecticides, detergents, bleachers, disinfectants, fuel materials, opium and its derivatives, plants, toxic gases, bites (snakes, scorpion bites, insect bites), etc. Be (Bateman, 2011 and Sawalha et al., 2010). The intentional osmotherm that is most common in puberty (ages > 12 years) and poisoned should be introduced to the psychiatrist, regardless of post-treatment toxicity. About two million people in the United States are poisoned every year, most of which are acutely and accidentally poisoned with a poisonous substance in the home and involve most children under the age of six (Mousavi sa et al., 2007).

Drug poisoning: Most poisoning

The use of drugs leads to poisoning, most of which are severe and fatal (Sobhani et al., 2000).

Table 1: The causes of poisoning and its types are, respectively, the magnitude of the extent

Poisoning	Type of poisoning	Age of poisoned	keeping place	reference
Human medicine	by accident	5-1 years	Safe /unsafe	(Moghadamnia et al., 2004)
Methadone	by accident	5-3 years old	Safe	(Ghorbani et al., 2015; Allameh et al., 2017)
Drugs	by accident	5-1 years	Unsecured	(Shabestari et al., 2014)
Rat poison	Random /deliberate	> 3 Year	Insecure /secure	(Chaudhary et al., 2008)
Solution	by accident	5-1 years	Unsecured	(Arjmand et al., 2014)
Agriculture poisoning	by accident	5-3 years old	Safe	(Islambulchilar et al., 2009)
Rice pills	Intentional	> 12 years	Safe	(Jailkhani et al., 2014)
Gas and liquid	by accident	10-1 years	Safe	(Naghavi et al., 2010)
Livestock medicine	by accident	5-3 years old	Safe	(Sobhani et al., 2010)
insecticide	by accident	5-3 years old	Unsecured	(Willemijin etal 2011)
Herbicide	by accident	> 3 Year	Unsecured	(Zare and Maleki 2009)
poisonous mushroom	by accident	> 3 Year	Unsecured	(Pajoumand et al., 2005)
Alcohol	Random /deliberate	> 1 Year	Insecure /secure	(Mortazavi et al., 2012)
Dietary	by accident	> 3 Year	Safe	(Zarezadeh etal 2011)

Part of the poisoning is admitted, and most poisonings need to be transmitted by ambulance and admission to ICU (Mehrpour et al., 2013). Mortality is very low in children, but it is more intentional in poisoning. Acetaminophen and carbon monoxide are the most commonly used agents that cause poisoning and treatment of poisoning in children, including mortality and morbidity and mortality, and methadone in toxic poisoning. Drug poisoning in toddlers is the most important cause of poisoning (Jailkhani et al., 2012).

3 Causes of child poisoning

One of the reasons for this is the search for children's curiosity in this age group. The inadequate culture of drug use and preservation, the lack of packaging of the drug in a form that is inaccessible to children is one of the causes of poisoning in children. The second major cause of unintentional poisoning in Iranian children is poisoning with oil. This could be due to fuel problems and the wrong storage of oil. In case of poisoning with the Whittaker, parents cannot be observed in maintaining the Whittaker in a water container (and Abdoli et al., 2018 and Aryaie et al., 2014)

RESULTS AND DISCUSSION

More than half of the poisoning occurs in children aged 5 years or less. Almost all of this is due to the children who bring everything into their mouths. Most poisoning of children occurs at

home. Mostly responsible for the toxic substance. Most cases of contact are edible. Poisoning accounts for about 7% of all accidents in children under the age of 5, accounting for about 2% of all childhood mortality in developed countries and more than 5% in developing countries (Mojtabayi, 2012). Skin, respiratory and inhalation contact and eye contact. Approximately half of the substance is toxic and includes home-made materials such as cosmetics and hydrocarbons, detergent solutions, plants and foreign objects. Drug medications include analgesics, cough and colds, antibiotics, and vitamins. The most commonly used drugs are deaths and most of them are poisoning. Randomized poisoning is not common in infants. Poisoning in children aged 12-6 years is less common, and in the youth group, poisoning has mostly been caused by abuse or suicide. Findings of the study showed that more than half of the cases of accidental poisoning were in the age group of 10 years or less. About three quarters of poisoning cases in this age group occurred in children younger than 5 years old. In another study of 3299 children less than 12 years of age, 86.5% of children were children less than 5 years old (Gheshlagh et al., 2013).

Providing more awareness to parents about the preservation of drugs, petroleum products, detergents and detergents in a way that is out of reach of children, and public education about the benefits of traditional treatments, including the use of opium in the treatment of gastroenteritis, can be partly effective in preventing children's accidental poisoning. It is recommended that

detergents and cleaners should not be stored in the lower cabinets of the kitchen and in containers of soft drinks and juices. Children are more at risk of poisoning due to their exploratory nature as well as imitation of adults (Sawalha et al.,2010). Keep the candy-like medicine out of the reach of children. Drugs of the past are discarded and not used in children's poisoning. Opium is still used to treat gastroenteritis with opium. Since most of the accidental poisoning has occurred in children less than 10 years old and human medicine has been the most common cause of accidental poisoning, more attention is paid to how to store chemicals, especially medications at home and to educate parents in this regard.

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