

Childhood Accidental Poisoning in Tafila

Hussein A Bataineh*¹, MD; Ahmed M Bataineh¹, MD

1. Department of Pediatrics, Prince Zeid Hospital, Tafila, Saudi Arabia

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Abstract

Objective: To assess the frequency, causes and how to increase the awareness of childhood poisoning.

Material & Methods: A retrospective study of childhood accidental poisoning was conducted in Tafila Prince Zeid Hospital (PZH) by reviewing the files of 134 children admitted with accidental poisoning in 2003-2005.

Findings: This study showed that accidental poisoning was frequent but morbidity was low and there were no deaths. Analgesics and antihistamines were the most frequently ingested drugs.

Conclusion: The frequency of accidental poisoning is common in Tafila. Household chemicals and medication were the predominant. So, that merits the introduction of a public awareness campaign and increased use of child-resistant containers is important preventive measures that deserve more attention.

Key Words: Accident, Poisoning, Children, Analgesic, Antihistamin

Introduction

Childhood poisoning is a universal problem which is usually accidental, and is associated with low morbidity and mortality^[1-3]. Hospital based studies conducted in India indicate that poisoning is the cause of 0.3 to 7.6% of total admissions^[4].

Although there were studies on changes in incidence of childhood poisoning with the introduction of child-resistant containers and changes in prescribing habits,^[5] there has been no studies on the effect of the availability of a particular medication on accidental poisoning in children^[6]. We have thus had an opportunity to observe the pattern of childhood accidental poisoning

and to determine the types of substances ingested and the ratio of the therapeutic agents to nontherapeutic agents taken.

This paper, reports the pattern of accidental poisoning of children in Tafila by means of a prospective study, which was arranged to precede the start of a public awareness campaign and the introduction of child-resistant containers.

Material & Methods

A retrospective study was conducted, which involved daily visits to Prince Zeid Hospital in Tafila city south of Jordan. The study took place

* Correspondence author

Address: Prince Zeid Hospital, Tafila, Saudi Arabia

E-mail: hussein_azzam@yahoo.com

in 2003-2005. The records of all children (defined as less than 16 years) admitted to the hospitals or attending the emergency department, and that were diagnosed with accidental poisoning by the attending doctors, were accessed.

Direct interviews were arranged with the parents and the attending medical staff to complete the data collection. The following information was obtained: age, sex, time of poisoning; duration of ingestion prior to medical attention; type of substance ingested; amount and formulation of the substance ingested; container details; history of the event; first aid performed; hospital management details; outcome; and morbidity.

Findings

During the study period, 134 children (77 males and 57 females) were seen at the hospitals after a poisoning event. Out of the total, 74 poisonings were due to medicines (55%) and 60 to household chemicals (45%). Table 1 indicates the frequency of poisonings and the type of poison ingested according to age. The 1-5 year-old age group had the most poisonings by therapeutic and non-therapeutic substances as children under five accounts for most unintentional childhood poisonings. Table 2, outlines the types of medicines ingested by all age groups other than the 1-5 year-old age group, which is listed separately in Table 3. Analgesics, non-steroidal

Table 1- Total number of children with poisoning in Tafila according to age and type of poison

Age (years)	Substance		Total
	Medicines	Household chemicals	
0-1	57	1	8
1-5	5	43.6	101
6-10	9	2.1	10
11-16	74	5.3	15
Total	3	3.5	134

Table 2- type of medicines ingested in the age groups

Age (years)	Age group(years)		
	<1	6-10	11-16
NSAID/non opioid	1	1	6
Bronchodilators	-	2	-
Anticonvulsant	-	1	2
Antibiotics	-	1	2
Antiemetics	1	-	2
Antiulcers	-	-	1
Parasitocidals	-	-	1
Antiseptics	1	-	-
Total medicines	3	5	14
Total children	3	5	9

Table 3- Medicines ingested in 1-5 years age group

Substance	Number
NSAID/non-opiod	12
Antihistamines/cough	11
Antibiotics	6
Hormones	5
Surgical spirits	3
Antispasmodics	3
Laxatives	2
Parasitocidals	2
Bronchodilators	2
B-Blockers	2
Thiazide diuretics	2
Tricyclics	2
Antacides	1
Appetite supressant	1
Anticonvulsant	1
Antiparkinson	1
Iron	1
Vitamines	1
Shampoo	1
Total Medicines	59
Total children	57

anti-inflammatory drugs (NSAIDs) and anti-histamines were the most commonly ingested substances in the 1-5 years-old age group.

The vast majority of children were brought directly from home to the hospital (83%); 23% within half an hour of recognition of the event and 50% within one hour. Open containers were the source of the poison in 52% (70/134) of cases and blister packs in 16% (22/134).

In only one case, a child-resistant bottle was the source of the poison. In all but 14 cases, poisoning was with therapeutic substances that were prescribed for the parents. In only 14 cases, pre-hospital first aid was offered to the child in the form of milk or the induction of vomiting. In all, 100 children remained under observation or in the hospital for one day or less (75%); however, 6

children were hospitalized for more than five days.

There were no deaths or apparent long-term consequences of the incidents and no loss of consciousness, but 9 were regarded as having a serious poisoning event. In terms of hospital management, 2 children were given a specific antidote, 33 had gastric lavage, 37 were given intravenous fluids and 6 were given charcoal orally. Of the 36 children who had a laboratory test, e.g. liver function test or test for plasma drug level, 17 test results were regarded as abnormal.

Discussion

Many previous studies have shown that children under five years of age are particularly at risk from accidental poisoning^[7,8]. Our study approves this finding. However, unlike the findings in Japan^[9], poisoning below the age of one year was rare in our study. In a study in Denmark^[7], 180 of 524 children (34%) admitted to hospitals with poisoning were admitted because of a household chemical poison. Cleansing agents were the most common, with dishwasher detergents outnumbering all other chemicals.

In our study, household chemicals accounted for 45% of the poisoning episodes. Similarity ingestion of household products constitutes the major cause of accidental poisoning in Basra, Iraq^[10]. However, some culturally unique poisons were also taken such as henna, herbal laxatives and frankincense. Household chemicals are thus an important source of poisoning for children and these tend to be kept in easily opened or open bottles. Insecticides have considerable potential for harm, but they were encountered in only two cases, both without fatal outcome. Common therapeutic agents, such as analgesics and anti-inflammatory drugs were found to be the most potent source of poisoning in our study, particularly in the 1-5 year-old age group.

Children who had ingested a poison were transported quickly to a hospital. Most people in the district lived close to an emergency department where pediatric expertise was

available. Fortunately, no deaths occurred in our study, although nine children had a prolonged admission in the hospital and severe illness as a result of the ingestion. As far as can be determined, no long-term morbidity was seen in the children within this study.

Previous work has suggested that the epidemiology of poisoning varies according to the development status of the country^[11]. In developing countries a pattern of insect stings and ingestion of paraffin and traditional medicines is common. Jordan has the pattern of countries such as those in Western Europe and North America with household products and pharmaceuticals being the predominant agents for childhood poisoning. Substances that are usually associated with death from poisoning are antidepressants, benzodiazepines and analgesics^[12].

In the present study there were no cases of poisoning with opioid analgesics, which are widely available in Jordan. In summary accidental poisoning in children in Tafila was frequent, and was mainly due to therapeutic agents and household cleaners. While morbidity was low and mortality absent, accidental poisoning causes considerable stress to parents and children and utilize the hospital time and resources. This study provides sufficient evidence to support the need for an aggressive campaign to reduce accidental poisoning in this area by strategies of information, education and the introduction of safety containers.

Conclusion

The frequency of accidental poisoning is common in Tafila. Household chemicals and medicines were the predominant agents at poisoning, so that introduction of a public awareness campaign and

increased use of child-resistant containers is important preventive measurement.

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