

Assessment of the Poisoning among the Child Under Five Years in Mosul City

تقييم التسمم لدى الأطفال تحت سن الخامسة في مدينة الموصل

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الخلاصة

الهدف: تهدف الدراسة الحالية الى التعرف على حالات التسمم بين الأطفال عند سن اقل من الخمس سنوات ما قبل المدرسة في مدينة الموصل.

المنهجية: شملت الدراسة (200) طفل كان منهم الذكور 123 والاناث 77 تم نقلهم الى قسم الطوارئ في مستشفى ابن سينا التعليمي في مدينة الموصل للمدة من 2010/11/1 لغاية 2010/12/30.

النتائج: أظهرت نتائج الدراسة الحالية إن أكبر نسبة من حوادث التسمم عند الأطفال الذين تتراوح أعمارهم ما بين (2-3) سنة والتي كانت (46%)، بينما عند الذكور كانت أكثر من الإناث بنسبة (61.5%). كذلك أظهرت النتائج بان مشتقات النفط كانت أكثر الأنواع شيوعاً من غيرها حيث يمثل (38.5%). وان ضعف المستوى الاجتماعي والاقتصادي وانخفاض المستوى التعليمي للأمهات من أهم الأسباب التي أدت إلى تسمم الأطفال في سن اقل من الخمس سنوات.

الاستنتاجات: استنتجت الدراسة الى ان التسمم بالبنفط (الكيروسين) الأكثر شيوعاً من غيرها بين الفئة العمرية (2 – 3) سنوات. كان التسمم عند الامهات الشابات والأسر التي لديها أكثر من 3 اطفال. معدل محو الامية للأمهات يرتبط بشكل كبير مع حالات التسمم والذي سجل (58%) من حالات التسمم عند الأطفال. معظم حالات التسمم (75%) كانت في متناول اليد. هذه الدراسة سلطت الضوء على حقيقة أن الجهل والأهمال والأمبالاة من جانب الوالدين يؤدي الى حالات التسمم.

التوصيات: يوصي الباحث بإعداد برنامج تعليمي لتوعية الإباء والأمهات لتعريفهم بالمواد السامة وكيفية تخزينها والاستخدام الآمن لها، وعن طريق الصحف والتلفاز والذي يمكن أن يساعد في تقليل من حالات التسمم عند الأطفال.

المفردات: حوادث التسمم، الأطفال.

Abstract

Objective: The objective of the present study is to identify the occurrence of poisoning in children at age less than five years Mosul City.

Methodology: This study included 200 children under 5 years attending at the Emergency Department Unit at Ibn – Sina Teaching Hospital in Mosul City, were (123) males and (77) females from the period (1/11/2010) to (30/12/2010).

Results: The results of the present study showed that the highest percentage of the studied children at patients aged between (2-3) years, were of (40%), while in male is more than female with percentage (61.5%). The petroleum distillates most common type of poisoning was of (38.5%). Low socioeconomic status and illiteracy of mothers were the leading cause of poisoning among children.

Conclusion: The study concluded that kerosene oil poisoning was the most common with the age group between (2 – 3) years most commonly involved. Poisoning was the most common in young mothers and in those households having greater than 3 siblings. Literacy rate of mothers correlated significantly with poisoning cases with the highest (58%) poisoning cases in children with intermediate mothers. In most of the cases (75%) poison was within easy reach. This study highlights the fact that ignorance, neglect and carelessness on part of the parents lead to cases of poisoning.

Recommendation: Researcher recommends preparing an educational program to educate parents and to introduce them to toxic substances and how it is stored and safe use, and through newspapers and television, which can help reduce cases of poisoning in children.

Keyword: Accidental Poisoning, Children.

INTRODUCTION

A poison is a substance which when introduced into the body injures or destroys the tissues and enzymes. It can cause a serious threat to life, depending on the amount, type and concentration of the poisonous substance, and also the immediate nursing intervention⁽¹⁾. Childhood poisoning is a major cause of morbidity in the developing as well as the developed world. In spite of the success of some interventions to prevent

accidental poisoning in the pediatric population, toxic ingestions continue to be a common occurrence. Globally, the pattern of childhood poisoning is changing rapidly⁽²⁾. More than 100000 individual are admitted to hospital annually due to poisoning, accounting for 10% of all acute admissions. However, the true incidence of acute poisoning may be 2-3 times greater⁽³⁾. Accidental poisoning is common among preschool age children because they are very active to explore the world around them e.g. the surfaces of tables, kitchen counters and bath room. Their curiosity goes anywhere and everything goes into the mouth⁽⁴⁾. Poisoning in childhood is complex interaction between the child, hazardous substance and environmental factors⁽⁵⁾. Moreover mothers may have a role in the occurrence of accidental poisoning. This is common in cases of mothers who have marital problems, sick mothers and when mother is busy and cannot supervise her child⁽⁶⁾. Poverty and mothers with little experience may be other risk factor which may lead to poisoning⁽⁷⁾. The aim of the present study is to identify the occurrence of poisoning in children at age less than five years Mosul City.

METHODOLOGY:

A descriptive design of study was carried out (200) children who attend to emergency department Ibn - Sina Teaching Hospital in Mosul City from the period of (1/11/2010) to (30/1/2011). The samples of the study were diagnosed by the doctors as poisoning cases. Direct interviews were arranged with the parents and review with medical staff to complete the data collection. The tool of the study (questionnaires) which contain the followings information the age, gender, birth order for children, address, education status and occupation for mothers, socioeconomic status, no. of sibling , type of poisoning, time of accident and storage place of poison.

RESULT:

Table (1): Distribution of the study samples according to age, gender, and birth order

	Item	No.	%
Children Age $\bar{x} = 3$ $SD = 1.58$	1 – 2 years	50	25
	2 – 3 years	78	39
	3 – 4 years	43	21.5
	> 4	29	14.5
Gender	Male	123	61.5
	Female	77	38.5
Birth Order	First	44	22
	Second	82	41
	Third	56	28
	The fourth or more	18	9

Table 1 shows that the majority of children (39%) were (2 – 3) years. The average age was (3) years. The majority of them ranked as the second, the third, and the first (41%, 28%, and 22% respectively). One hundred and twenty three of studied children were males (61.5%) compared to (38.5%) who were females.

Table (2): Socio - Demographic Characteristics for Child Families

Variables	No.	%	
Mothers Age $\bar{x} = 31$ $SD = 9.09$	16 - 25	70	35
	26 - 35	54	27
	36 - 45	51	25.5
	46 and more	25	12.5
Educational level of mother	Illiterate	58	29
	Primary	48	24
	Intermediates	33	16.5
	Secondary	33	16.5
	Institutes or above	28	14
Occupation of mother	Housewife	164	82
	Worker	36	18
Socioeconomic Status	Poor	110	55
	Satisfactory	54	27
	Good	36	18
No. of Sibling $\bar{x} = 4$ $SD = 2$	1 - 3	93	46.5
	4 - 6	81	40.5
	7 and above	26	13
Address	Rural	30	15
	Urban	170	85

Table 2 shows that the socioeconomic background of the studied children's families. According to the age, (35%) of the mothers age were (16 – 25) years old. Fifty eight (16.5%) of the mother were illiterate educational level. In relation to mother's occupation, most of them were housewife (82%) and (18%) of them were workers. Majority of the patients (55%) belonged to poor class followed by satisfactory (27%) and good (18%). Eighty one (40.5) child were having greater than 3 siblings followed by (46.5%) who had less than (3) sibling. Majority of the (80%) were living in urban area compared of those (15%) were living in rural area.

Table (3): Types of poisoning and related to event.

		No.	%
Type of poisoning	Medication	30	15
	Insecticides	6	3
	Inhalation gas	6	3
	Food poisoning	15	7.5
	Antiseptic	16	8
	Chemical substance	5	2.5
	Petroleum	107	53.5
	others	15	7.5
	Time of accident	Morning	54
Afternoon		128	64
At Night		18	9
Shortage place of poison	Easily of approachable	150	75
	Out of approach	50	25

Table 3 reveals that kerosene was the most poisonous substance nearly affecting (53.5%) of poisoned population. Majority of the cases of poisoning were admitted in the afternoon (64%) and at morning (27%), lesser cases were admitted in the night (9%). Storage place of poison was investigated with (75%) of parents reporting that it was easily approachable.

DISCUSSION:

Poisoning is most commonly observed at (1 – 5) years of age and these children constitute (80%) of all poisoning cases⁽⁸⁾. In the first year of life, the main causes of poisoning are medications given by parents. At (2 – 3) years of age, house cleaning products cause most cases of poisoning, at 3-5 years of age, the medications kept in the cupboard open are the main causes of poisoning⁽⁸⁾. In several studies, it has been reported that (51.4% - 73.3%) of all poisoning cases observed in Turkey involved children (< 5) years of age^(8, 9, 10). Similar finding has been reported in developed and developing countries⁽¹¹⁾. The present study showed that approximately more than half of the patients were less than four years old. In this age group, males were predominant. Ozdogan et al (2008) found that the highest incidence of poisoning was in age group (13) months to (4) years⁽⁹⁾. Apart from these factors education of mother, their knowledge about poison, storage place of poison along with number of siblings and number of family members also contribute to accidental poisoning events. In a multi variant study it was demonstrated that children of young mothers^(12, 13). Similar findings have also been noted in our study. In the same Swedish study, Hjern et al (2001) noted that children with more than (2) siblings had a greater chance of all injuries as they got neglected⁽¹²⁾, similar findings were also noted in our study with (45%) of the patients having (1-3) siblings. It was also seen that in (75%) of cases poisons were either easily approachable or didn't have proper storage place with medicine kept openly on side tables unlocked and kerosene being kept in kitchen in edible containers⁽¹⁴⁾. Children belonging to urban areas were more exposed (85%) compared to those in rural areas

(15%) this could be due to the advent of careers for mothers due to inflation leading to neglect of child. Kerosene oil was the first most common agent involved in our study. Kerosene is the commonest hazardous substance ingested accidentally by children living in Third World countries like Pakistan, India⁽¹⁵⁾. Surprisingly, in this era of development and technology, kerosene poisoning cases are reported from industrialized cities. Kerosene oil is a hazardous substance in accordance with the definition of Environmental Protection Agency of USA Kerosene is a petroleum distillate hydrocarbon⁽¹⁵⁾. The toxic effects on the body are due to its chemical properties of being more aromatic, having lower viscosity and surface tension. It was possibly due to easy availability of kerosene and during the summer months thirsty children took this substance which was sometimes kept in the discarded container of soft drinks and mineral water bottles etc.⁽¹⁶⁾.

CONCLUSION:

The study concluded that kerosene oil poisoning was the most common with the age group between (2 – 3) years most commonly involved. Poisoning was the most common in young mothers and in those households having greater than 3 siblings. Literacy rate of mothers correlated significantly with poisoning cases with the highest (58%) poisoning cases in children with intermediate mothers. In most of the cases (75%) poison was within easy reach. This study highlights the fact that ignorance, neglect, and carelessness on part of the parents lead to cases of poisoning.

RECOMMENDATION:

1. Ministry of health could be able to avoid poisoning of children by counseling the parents
2. Providing knowledge about the poison substances and their safe storage and use, by making the packaging of dangerous drugs safer, and substances such as kerosene and by means pamphlets, booklets and mass media.

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