A Three Years Review of Accidental Poisoning in Children at Fatema Al-Zahra Teaching Hospital, Baghdad.

Kholod Daher Habib

ABSTRACT:

BACKGROUND:

Accidental poisoning due to ingestion of potentially toxic substances is a major cause of morbidity in children worldwide .The purpose of this Study was to determine the prevalence and patterns of ingestion potentially toxic substances by children in Fatema AL-Zahra teaching hospital which served the eastern parts of Baghdad and to recommend plans for poisoning prevention.

METHODS:

Medical records of patients admitted to the pediatric medical department (p.m.d) in Fatema Al-Zahra teaching hospital because of accidental poisoning during the last 3 years (January 2004 to December 2006) were reviewed.

RESULTS:

A total of 13351 children were admitted to the pediatric medical department during the study period .Of these,110 children were reported as cases of accidental poisoning .The highest percentage of poisoning were found in the 1-2 years (yr) age group about 56 cases (50.9%) . Hydrocarbons ingestion accounted for the highest proportion of childhood accidental poisonings 53cases (48%).

CONCLUSION:

Although one case of death was reported in this study, continuous education of parents and caregivers of young children is recommended, as this would help to reduce the chances and complications of accidental poisoning.

KEY WORDS: Accidental, Poisoning, East Baghdad.

INTRODUCTION:

Accidental poisoning is most common in the 1 -5 yr old age group an incidence that reveals the young child inquisitiveness and the adult carelessness in leaving drugs and household chemicals within reach .90%of toxic exposure in children occur in the home and most involve only a single substance . Ingestion is the most common route of poisoning [1, 2, and 3]. About 60% of cases involve nondrug products, most commonly hydrocarbons, personal care products, household chemicals, and plants [1].

PATINTS AND METHODS:

Medical records of patients admitted to the p.m.d. in Fatema AL-Zahra teaching hospital because of accidental poisoning during a 3 yr period (1st of January 2004 to 31st of December 2006) were reviewed .Data were gathered concerning patient age, and sex, form of accidental poisoning, extent of symptoms, length of time between poisoning and medical attention, and length of hospital stay.

The term poisoning in this study refers to all exposures to potentially toxic products whether or not the exposure resulted in symptoms.

Pediatric Department in Fatema Al-Zahra Teaching Hospital.

RESULTS:

A total of 13351 children were admitted to the pediatric medical department during the study period .Of these, 110 children were reported as cases of Accidental poisoning with or without symptoms of intoxication. The age distribution of these children with accidental poisoning are seen in table 1 . The highest % of poisoning were in the 1-2yr age group which account for 56children (50.9%), followed by the group of below one yr which account for 24 cases (21.8%) , with only 18 cases (16.4%) 3-4yr of age ,and 12 case (10.9%) above 5yr of age . The male; female ratio of these 110 children was 1.7; 1.This ratio remained constant in the 4 age groups. Hydrocarbons ingestion accounted for the highest proportion of poisonings 53cases (48%), followed by drugs in 40 cases (36.3 %), house hold chemicals14 cases (12.7%), and 2 cases of carbon mono oxide (CO) poisoning account for 1.8 % of cases. Of the 53cases with hydrocarbon poisoning 51 cases were reported as kerosene poisoning. Of these only 27 (52.9%) had mild symptoms ,such as cough ,vomiting and tachypnea they were kept for overnight observation ,7 cases (13.7%) had high fever only , they were hospitalized for 3-5 days ,

and 16 cases (31.3%) developed chemical pneumonitis they were hospitalized for 5-10 days ,received antibiotic and steroids ,and discharged in better conditions .Only 1 case died few hours after arrival to hospital ,because he was found drown in a tank of kerosene. One case of the 4 cases of bleach ingestion had burns of oral cavity and they had transferred him to the surgical department in another hospital. In3 cases the organophosphates were used as insecticide for Pediclusis treatment They developed typical cholinergic symptoms, they had received appropriate treatment and discharged after 2 days .The 3 cases of rat poisoning had no symptoms, they were kept for 24 hours observation. 2 brothers were diagnosed as carbon mono oxide(CO) poisoning ,they were unconscious at admission , one of them developed convulsion ,received appropriate treatment and discharged in better condition after 48 hours . Among the 40 children who ingested drugs, 25 (62.2 %) cases had no symptoms. The commonest symptoms in the 5cases who ingested metchlopromide were oculogyric crisis followed by abnormal movement and drowsiness ,they received treatment and kept for overnight observation . The commonest symptoms in children who ingested anticonvulsant , antihypertensive and antihistamines were drowsiness ,vomiting ,cough ,bradycardia and hypotension ,they received treatment and discharged after 24 hours observation . One case of the 7 cases of anticholinergic drugs ingestion developed flushing of the face ,they were hospitalized for observation and discharged after 24 hours . 7caces of antibiotic accidental drug poisoning were asymptomatic. Paracetamol was ingested in2 cases, Iron in2cases, and contraceptive pills in2 cases , all of whom presented with no symptoms of intoxication upon arrival at the p.m.d., they were kept for few hours and discharged later . Two cases presented with history of ingestion of tablets but the parents did not know the type of medication because the drugs delivered in nylon bags. Families of children who ingested drugs waited to seek medical care later; 20%of cases presented in the 1st 2 hours of ingestion, 45% of cases took 2-4 hours, and 35% of cases took up to 6 hours before seeking medical care. Families of 85% of children who ingested hydrocarbons ,pesticides (organophosphate and rat poisons), and household chemicals presented to the hospital within the 1st tow hours of ingestion , the reminder 15% of cases waited up to 4 hours before seeking medical care .

Table -1- age distribution;

year	Number	percentage
Below one year	24	21.8%
1-2 year	56	50.9%
3-4 year	18	16.4%
5-8 year	12	10.9%

Table 2: illustrates the types of poisons seen in the 110 childhood accidental poisoning cases.

Type of accidental poisoning	Number	percentage
Medicinal		
Paracetamol	2	1.8
Anticholinergic	7	6.3
metchlopromide	5	4.5
antihistamine	6	5.4
antihypertensive	5	4.5
iron	2	1.8
Antibiotics	7	6.3
contraceptive	2	1.8
anticonvulsant	2	1.8
unknown	2	1.8
Non medical		
kerosene	51	46.3
thinner	1	0.9
benzene	1	0.9
CO1	2	1.8
Bleach	4	3.6
Soap and soap additives	5	4.5
organophosphate	3	2.7
Rat poisoning	3	2.7

Table -3- shows the classes of symptoms in childhood drug poisoning.

Symptoms	Numbers and Percentage
Asymptomatic	25 (62.5 %)
Mild –to- moderate symptoms	10 (25%)
Vomiting	3
Cough	3
Drowsiness	4
Sever symptoms	5 (12.5 %)
Oculogyric crises	1
Flushing and extreme irritability	1
Bradycardia and hypotension	2
Abnormal movement	1

DISCUSSION:

Poisoning accounted for 0.82% of hospital admission to the p.m.d. in Fatema AL-Zahra teaching hospital for the selected 3 yr period , this frequency of accidental poisoning is low and coincides with the results of anther studies conducted in U.S.A (4,5,). ,U.K (6). ,Saudi Arabia(7,8,9), Qatar(10) and Iraq (11). The highest frequency (89.1%) of accidental poisoning was observed in children less than 5 yr of age ,with male ; female ratio of 1.7 ; 1, this patterns of accidental poisoning appears consistent with another previous studies on accidental poisoning (4-11) . In our study we found that ingestion of hydrocarbons was the most common finding followed by drugs , household chemicals and pesticides ,our findings were in agreement with El-Mouzan M I , Elageb A , & Ali N K(9), and Mahdi A H , Taha S A, & Al-Rifai M R(8) , Joubert P H(12) , and AL Sadoon I, Yacoub A, & Abdul –Karim M (13), but our results were contrast with data from other studies (4,10,14) ,when they found that drugs were the most common cause of accidental poisoning in children . We found that 16 (31.3%) cases out of 51 case of kerosene poisoning had developed chemical pneumonitis which co inside with Saleh T. Dawod, Robert S. Ganelin, M.D.& George E. Asfoura,M.D (10). when they found that 17 out of 49 cases of kerosene poisoning developed chemical pneumonitis . We found that 62.5 % of accidental drug poisoning were asymptomatic ,this may be related to low dose of drugs ingested , induction of vomiting at home and the type of drug ingested , this observation co inside with G. Ike Izuora ,M D, Adebowale Adeoye(14) when they found that more than 60% of drug poisoning were asymptomatic ,and contrast with Saleh T. Dawod, ,Robert S. Ganelin, M.D.& George E. Asfoura,M.D.(10) , when they found only 30.5% of drug accidental poisoning were asymptomatic. In our study the mortality was 0.9 % which is low compared with 1.5 %(7) and 4.6 %(12).

CONCLUSION:

Although one case of death was reported in this study ,continuous education of parents and caregivers of young children is recommended, as this would help to reduce the chances and complications of accidental poisoning .The strict regulation of secure packing and prescribing of all medication in small amounts and in childproof containers must be enforced to prevent accidental childhood poisoning. We emphasize on appropriate public education on safe practices of storing medication and toxic household chemicals. We recommend the labeling of drug Sackets in order to knew the type of drug in it.

REFERENCES:

1. George C., Rodgers Jr. ,Nancy J. Matyunas. Poisoning :In Richard E. Behrman, Robert M. Kliegman, Hal B. Jenson. Nelson textbook of Pediatrics; 17th ed. W.B. Sanders Company, 2004 ;2362-2365.
2. Josibert, John M Goldsmid, Peter J Fleming. Accidents, Poisoning, and SIDS: In Forfar & Arnil's Campbell Text book of pediatrics. 6th edition, Churchil Livingstone 2003; 1695-1697.
3. Paul H. Doworkin , M.D. PEDIATRICS ;4TH ED. Lippincott Williams and Wilkins /Awolters Kluwer Company ;2000; 52-53.
4. Litoviz T L , Baily K M, Schmitz B F, et al . 1990 Annual Report of the American Association of Poison control Centers Data collection System. Am. J Emerg Med .1991; 9:461-509.
5. Litoviz T L, Manogurra A. Comparison of pediatric poisoning hazards on analysis of 3.8 million exposure incident a report from the American Association of Poison control Centers Pediatric .1992 ;89:999-1006.

6. Lawson G R, Graft A W , Jackson R H .Changing pattern of poisoning in Newcastle.1974-81.BMJ .1983; 287: 15-7.
7. Al Hifze I S, Kuman P, Talol W. Hospitalization due to acute poisoning in children .Tabouk Experience. J Fam Comm Med. 1995; 2:27-30.
8. Mahdi A H , Taha S A, Al-Rifai MR. Epidemiology of accidental poisoning in Riyadh (Saudi Arabia). J Epidemiol Community Health. 1983 ; 37: 291-5.
9. El-Mouzan M I , Elageb A , Ali N K. Accidental poisoning in children in the Eastern Province . Saudi Med J .1986 ; 7 :231-6.
10. Saleh T. Dawod, M.D. ,Robert S. Ganelin, M.D. GeorgeE Asfoura,M.D. Accidental poisoning of children in Qatar .Annals of Saudi Medicine. 1989 ; 9 : 3: p.243-246.
11. Naji N A , Abdukkah Z A .Kerosene poisoning in children in Iraq . Postgard Med J 1995; 71: 419-2.
12. Joubert P H . Poisoning admissions of black South Africans. J Toxicol Clin Toxicol . 1990;28 :85-94.
13. AL Sadoon I, Yacoub A, Abdul –Karim M .Accidental poisoning among children in Basrah .J Fac Med (Baghdad).1988;30:105-12.
14. G. Ike Izuora ,M D, Adebowale Adeoye. A Seven –year review of accidental poisoning in children at a military hospital in Hafr Al Batin Saudi Arabia .Ann. Saudi Med .2001;21:13-15.