

The Pattern of Acute Poisoning in Children in Chudary Mohammad Akram Teaching and Research Hospital Lahore

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ABSTRACT

Background: Acute poisoning is one of the identifiable cause of morbidity and death in children less than five years of age. The type of substance taken and prevalence vary from place to place and over time.

Aim: To assess the frequency and pattern of acute poisoning in children in Chaudhry Muhammad Akram Teaching and Research Hospital, Lahore.

Methods: This retrospective study was conducted at the Pediatrics Emergency of Chaudhry Muhammad Akram Hospital from July 2017 to June 2019 (2 year). All cases of acute poisoning in children that presented within that period were reviewed and important information extracted by retrieving data from hospital records and patients files.

Results: One hundred children were referred to pediatrics emergency departments of Chaudhry Muhammad Akram Hospital due to acute poisoning. 55(55%) were between 2-5 year of age group, 27(27%) were between 6-10 year of age group and 18(18%) were between 11-14 year old. 60(60%) were male and 40(40%) were female. There was Ingestion of poison in 97(97%) and 3 (3%) had poisoning through skin contamination. The most common poisoning agent was Corrosive 71(71 %), followed by Hydrocarbon 11(11%), Drugs 9(9%), Agrochemical 7(7%), Plants and Insect poisoning 1(1%) respectively.

Conclusion: Acute poisoning is a significant cause of morbidity among children in developing countries. Acute poisoning is common in Pakistan, with appreciable mortality, Bleach being the most common agent now a days.

Keywords: Acute, Poisoning, Emergency, Children, Corrosives

INTRODUCTION

Poisons are substances that can cause death, injury or harm to organs, usually by chemical reactions or other activity on the molecular scales, when an organ is exposed to a sufficient quantity. The poison word is derived from the Latin word-Potio, To drink. Most poisons are swallowed (ingested), but poisons can also enter the body in other ways: by breathing, through the skin, by IV injection, from venom of snake bite and bites of insects.

Acute Poisoning in children contains a noteworthy segment of damage related to morbidity and mortality¹. The incidence of acute poisoning in both developed and developing countries is increasing throughout the world during recent years. This makes issue of children poisoning prone to death².

Acute poisoning in children is a significant medical issue and often leads to admission in emergency units. Homes are the places intended to be protected and secure. In many studies, home mishaps are the most common reasons for poisoning incidents. This gives the feeling that homes are not that shelter as one may suspect³. There are studies on changes in incidence and pattern of children poisoning, the unusual presentation with child-resistant containers and changes in endorsing propensities⁴.

The most widely ingested recognized substances were agro chemicals. Others include (12.6%) Alkaline cleaners, (11.9%) Opiates, (8.4%) Tricyclic antidepressant and (7.7%) Benzodiazepines. Multi-tranquilizer poisoning cases were about 2.8%. Sedatives were the most widely recognized cause of poisoning in less than half year old infants. Level of consciousness diminished (67.6%), well known sign and symptoms were retching in (50%)⁵.

The acute poisoning in children is a health related emergency in paediatric unit. The acute poisoning is typically frequent throughout the late spring season and kerosene used as lamp fuel was found the most common cause. It was common because of simple accessibility. In most cases of kerosene oil poisoning children ingest this substance mistakenly which is saved in disposable container of mineral water and soda drinks⁶.

Acute organophosphorus pesticide poisoning is an expanding issue, especially in rural zones⁷. In young children iron poisoning is also cause of death. Iron supplements are common so relationship between iron poisoning in young children and sibling birth is investigated. Pregnancy is a one of the risk factor for iron poisoning in young children, and the time period following and after delivery is associated with hazards⁸.

Generally guardians are unaware of toxic substances inside plants. The most common six plants that commonly are the wellspring of harmful substances are the peace lily, pepper plant, holly, philodendron, pokeweed and poinsettia. Signs and symptoms of ingestion include burning and bothering of oral mucosa, queasiness, retching, gastric disturbance, nervousness, breathing challenges, and change in level of consciousness⁹. Any place conceivable the content of ingested substance and its dose per kilo weight of body ought to be recognized as precisely as could be allowed. In younger children the amount of substance taken is very hard to find out. Some thought of the greatest measure of substance that could have been ingested can be calculated from contrasting the quantity of tablets, or volume of fluid staying, with details on packaging¹⁰.

Most of the children with acid ingestion in developing countries are treated at home, or frequently referred late to emergencies leads to the stricture formation. At the point when dilatations are performed out, the stricture is often entrenched, making dilatation increasingly troublesome. The time interval between acid ingestion and endoscopy was 8.8 months. Formation of intermittent stricture and long term dilatation is expected¹¹.

The aim of our study was to clarify the present pattern of acute poisoning in children at Chaudhry Muhammad Akram Teaching and Research Hospital, Lahore.

MATERIAL & METHODS

A retrospective study was conducted, which involved daily visits to Chaudhry Muhammad Akram Teaching and Research Hospital Lahore. The record of all children (defined as less than 14 years) admitted from July 2017 to June 2019 to the hospital or attended the emergency department, and that were diagnosed with acute poisoning by the attending doctors, were assessed. Data was

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collected from Emergency and ward registers. The following information was obtained: age, sex, address, reason of hospital admission, type of poison, route of poisoning time of poisoning, duration of ingestion prior to medical attention, container details, history of the event, outcomes and morbidity.

RESULTS

Table 1: Frequency distribution of respondents according to their Age, CMATRH

Age of respondents	Frequency	%age
2-5 years	55	55%
6-10 years	27	27%
11-14 years	18	18%
Total	100	100%

This table shows that among 100 Patients of acute poisoning in CMATRH 55(55%) are between 2-5 year of age group, 27(27%) are between 6-10 year of age group and 18(18%) are between 11-14 year old.

Fig. 1: Frequency distribution of respondents according to their age, CMATRH

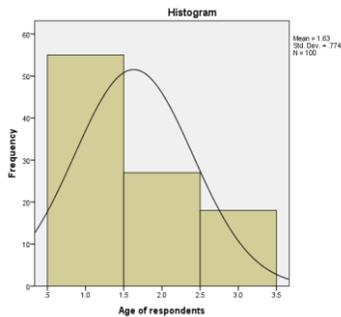


Figure 2: Identifies that among 100 respondents of acute poisoning 60 (60%) were male and 40 (40%) were female.

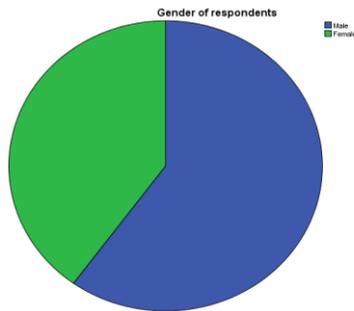


Table 3: Frequency distribution of Route of Poisoning, CMATRH

Route of poisoning	Frequency	%age
Ingestion	97	97%
Skin Contamination	3	3%
Total	100	100%

This table shows the most common route of poisoning was ingestion of poison in 97(97%) and other through skin contamination which was 3(3%).

Table 4: Frequency distribution of Type of Poisoning, CMATRH

Type of poison	Frequency	%age
Corrosive	71	71%
Hydrocarbons	11	11%
Drugs	9	9%
Plants	1	1%
Agro chemicals	7	7%
Insect sting	1	1%
Total	100	100%

This table clarifies that among 100 patients of acute poisoning; the most common agent was Corrosive 71(71%), followed by Hydrocarbon 11(11%), Drugs 9(9%), Agrochemical 7(7%), Plants and Insect poisoning 1(1%) respectively.

Table 5: Frequency distribution of Location of the Poisoning event, CMATRH

Location of the poisoning event	Frequency	%age
Bed Room	9	9%
Washroom	49	49%
Kitchen	22	22%
Out-side Room	20	20%
Total	100	100%

This table shows location of poisoning event, washroom was the most common location of poisoning 49 (49%), Followed by kitchen 22 (22%), outside the room 20 (20%) and bed room 9 (9%).

Table 6: Frequency distribution of Symptoms before presenting to Hospital, CMATRH

Symptoms before presenting to hospital	Frequency	%age
Abdominal pain	21	21%
Unconsciousness	3	3%
Palpitations	2	2%
Nausea & Vomiting	47	47%
Loose Stools	20	20%
Drowsiness and Dizziness	3	3%
Eye or Skin irritation	3	3%
Hypernatremia & Hyperchloraemic acidosis	1	1%
Total	100	100%

This table demonstrate symptoms before presenting to Hospital, among 100 patients 47(47%) with Nausea & Vomiting, 21(21%) Abdominal pain, 20(20%) Loose stools, other presented with unconsciousness, Drowsiness & Dizziness and Skin irritation 3(3%) respectively, 2(2%) palpitations and 1(1%) Hypernatremia & Hyperchloraemic acidosis.

Fig. 5:

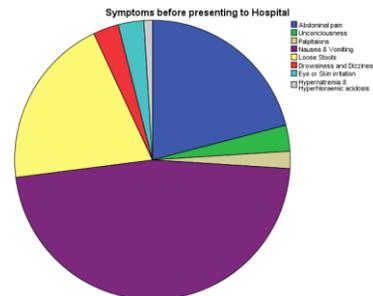


Table 7: Frequency distribution of Outcome of Poisoning, CMATRH

Outcomes of poisoning	Frequency	%age
Discharged	100	100%

This table shows that patients presented in Emergency of Chudary Mohammad Akram Teaching and Research Hospital Lahore with acute poisoning discharged after primary treatment.

DISCUSSION

In our study, One hundred children were referred to pediatrics' emergency departments of Chaudry Muhammad Akram Teaching and Research Hospital Lahore .This retrospective study was done at the Pediatrics Emergency of Chaudary Muhammad Akram Teaching and Research Hospital Lahore from July 2017 to June 2019 (Two years).

Acute poisoning in children as a rule happen with household items (beauty care products, pesticides, plants, cleaning agents, Analgesics, nutrients, expressions and specialty home items and furthermore with carbons or with different medications). Early recognition and treatment of poisoning should be done to give

emergency medication. Emergency observation of patient with poisoning needs to monitor the Vitals and level of consciousness including breathing, airway and circulation. Vital signs incorporate pulse, heart rate, respiratory rate, blood pressure and glucose level.

By taking careful history with a complete physical examination and case oriented focused labs the doctor can accurately analyze and treat most ingestion in a successful way.

Numerous past studies have demonstrated that kids under five years old are especially in danger from unintentional poisoning^{12,13}. Our study favors this finding. In any case, in contrast to the finding in Japan¹⁴, poisoning was uncommon under one year of age in our study. In a study in Denmark¹², 180 of 524 kids (34%) admitted to hospital because chemical poison used at home. Cleaning substances were the most widely recognized, Among most common chemicals, dishwasher detergents were more frequent chemical poisoning.

In our study The most common agent was Corrosive 71(71%), followed by Hydrocarbon 11(11%), Drugs 9(9%), Agrochemical 7(7%), Plants and Insect poisoning 1(1%) respectively.

Similarity ingestion of household items establishes the significant reason for unplanned poisoning in Basra, Iraq¹⁵. Household chemicals are along these lines a significant wellspring of poisoning for kids and these will in general be kept in effectively opened or open containers. Bug sprays have extensive potential for harm, yet they were experienced in just seven cases, all were without lethal result.

Common therapeutic agents, for example, analgesics and anti-inflammatory drugs were seen as the most powerful wellspring of poisoning, in our study 9 cases detected. Children who had ingested a toxin were shifted rapidly to an emergency clinics. Fortunately, no deaths occurred in our study. No long-term morbidity was seen in the children within this study.

Past studies have recommended that the pattern of acute poisoning in children changing as per the advancement status of the nation¹⁶. In developing countries ingestion of paraffin and medicine and insect bites are common. In developed countries like North America and Western Europe with household agents and drug poisoning being the most the most common poisoning in children. Deaths from the substances were generally associated with Benzodiazepines, Antidepressants and analgesics¹⁷.

In the present study there were no cases of poisoning with opioid analgesics, which are widely available in Lahore.

CONCLUSION

In developing countries acute poisoning is still significant cause of morbidity and mortality in children. Acute poisoning in children is common in Pakistan, with significant morbidity and mortality, Bleach is the most common poisoning agent now a days.

Incidence of acute poisoning in children can be reduced by education and awareness about potential toxicity of commonly used drugs and household substances.

Conflict of interest: Nil

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