

Analytical Study of Acute Poisoning Cases Admitted in Lahore General Hospital, Lahore, Pakistan

Pervaiz Zarif, Syed Zia Uddin and Naghmana Bashir

ABSTRACT

Objective: To analyze the cases of poisoning presenting in Accident & Emergency Department, Lahore General Hospital, Lahore according to their nature, outcome and treatment methodology adopted.

Study Design: Descriptive / cross-sectional study.

Place and Duration of Study: This study was conducted at the Department of Forensic Medicine & Toxicology, PGMI/AMC in 1st Jan – 31st Dec 2015.

Materials and Methods: This research included all the poisoning cases reported to Pediatric and Medical Emergency of Lahore General Hospital, Lahore. Clinical record of poisoning cases was analyzed. A structured questionnaire was used to collect the data from the respondents. During this period 685 cases reported in both Medical and Pediatric emergency for alleged poisoning. Questionnaire was filled with the help of relatives or person himself and some interviews also be done.

Results: Acute poisoning patients consisted 685 (6.6%) of the total 10353 patients admitted in the pediatric and medical emergency, Lahore General Hospital, Lahore. 398 (59%) out 685 patients were children upto 15 years old and the remaining were above the age of 15 years. Most of the poisoning cases reported to LGH, Lahore were medicine related which were 287 (41%) and after that household products 148(21.61%). The positive outcomes were obtained in 65% (443) and the negative outcomes resulting as death were 4% (29) cases and about 84 (12%) were left against medical advice (LAMA) during their medication from the hospital. Some cases were transferred to the other wards after giving proper medication which were 129 (19%) for their further treatment.

Conclusion: Acute poisoning has got a significant share among all the admissions in the Lahore General Hospital, Lahore. The extensive care is provided to the poisoned patients in reasonable short span of time. Limited no. of recourses provided to the poisoned patients in emergency made it difficult for the doctors to handle these cases

Key Words: Acute Poisoning, LAMA (Left against medical advice), PGMI, AMC, Pediatrics emergency, Lahore General Hospital, Lahore.

Citation of articles: Zarif P, Ziauddin S, Bashir N. Analytical Study of Acute Poisoning Cases Admitted in Lahore General Hospital, Lahore, Pakistan. Med Forum 2018;29(6):102-105.

INTRODUCTION

Acute poisoning is defined as those cases which took some type of poisonous medicinal products by himself or by anyone else or widely by any mean in last 6-12 hours and symptoms and signs appear in this duration. These are usually reported to accident and emergency department for immediate treatment and need very special care as the main cause of a major share of admissions in the hospitals is acute poisoning to the medical emergency services¹. Proper diagnosis with prompt initial care are the main factors for better management of poisoned patient², and sympathetic

treatment is primary and always be kept on top priority³. Mortality and morbidity is mostly caused by poisoning and the toxicology plays vital role in the medical emergency⁴. In Taiwan, mortality rate is 4%⁵. The acute poisoning shared 5% of the total cases reported in the pediatric and medical emergency of LGH, Lahore, Pakistan. According to the previous researches, most of the poisoned cases were treated in the medical emergency and intensive care unit⁶. It is not possible in Lahore to set objective and take complete picture of the acute poisoning at the time of admission in emergency services and also prohibited to determine extent of quality care and there is also no poisons and toxicology unit. That's why the researcher decided to investigate and analyze the descriptive characteristics of acute poisoning cases reported in the LGH, Lahore.

The rate of children's acute toxicity, the nature of the accident and the responsible substances remains extremely high⁷. The most encountered mode of poisoning was pharmaceuticals and household goods⁸. In many developing countries, especially Burkina Faso, Barbados self-treatment using traditional medicine, systematic, and often experience become⁹. This health

Department of Forensic Medicine & Toxicology, Postgraduate Medical Institute/ AMC, Lahore.

Correspondence: Dr. Pervaiz Zarif, Assistant Professor of Forensic Medicine & Toxicology, Postgraduate Medical Institute/ AMC, Lahore.

Contact No: 0300-9438313

Email: pervaizarif@gmail.com

Received: November, 2017;

Accepted: February, 2018

centres street drugs, or for use in our society, cultural and social beliefs, but because of the people in poverty is either. Everyday life is the use of oil-based household products and plant mass could be any other explanation. Some studies have shown that children, household items showed that it is responsible for over 65% of acute poisoning¹⁰. The pharmacological and in particular, the toxicological properties of several herbs are not known. It is therefore necessary to examine his clinical pharmacology and toxicology.

MATERIALS AND METHODS

Two departments (Pediatric and Medical emergency wards of LGH, Lahore) were included to conduct this prospective study. Inclusion criteria consisting of the patients admitted in these two emergency wards in which acute poisoning was diagnosed, and providing a written consent form to patients' parents/attendants for receiving the formal approval. A formal survey was conducted by the researchers in which the researchers asked questions to the patients at the time of admission and medical staff members for investigating about the medical history of the patients. A structured questionnaire was used to collect data. It has two sections. First section was used to collect data from patients and second one was used to collect data from medical staff (pediatricians, emergency physicians, pharmacists, general physicians and hospitals doctors) of the hospital. Reason of admission, circumstances of poisoning, difficulties faced in the hospital and care provided in the hospital by the hospital staff is the characteristics variables of the study. After collecting data from the respondents, it was organized in the SPSS version 22 for further analysis.

RESULTS

685 cases reported in medical and pediatrics emergencies in LGH, Lahore which is 7% of total 10353 admitted cases in the year of 2015. The share of pediatrics emergency in acute poisoning cases is 398 which were 59% of the total admissions. The most of the patients of acute poisoning are of the age of 1-6 years. Females are 33.87% and 66.13% are male patients. The major victims of the acute poisoning cases are students and pupils which was 27 of the total cases. The nature of the poison was determined in 93% of the patients. Medicines are the main reason of poisoning which was 35.91%, poisoning with household products is 21.61%, food is 14.74% and narcotics are 14.16% as showcase in the Table No. 1.

In medicine related poisoning cases, most of the patients took medicine from pharmacies without physician prescription which is 53%. Patients took drugs from home and its percentage is 24 and 23% took other traditional products. Paracetamol and BDPs are most commonly used drugs in the medicinal drugs (20%) which are shown in Table No. 2. From

household products, caustic substances including soaps are the main reason of poisoning (43%), pesticide (29%) and petroleum products (26%) are the most consumed ones (Table No. 3).

Table No. 1: Distribution of cases according to responsible poison in Medical and Pediatric Emergencies

Poison	Pediatric Emergency	Medical Emergency	Total	%age
Food	53	48	101	14.74
Medicine	178	68	246	35.91
Narcotics	10	87	97	14.16
Household Products	118	30	148	21.61
Animal Venom	18	39	57	8.32
Traditional Medicine	21	15	36	5.26
Total	398	287	685	100.0

Table No. 2: poisonous Medicine distribution according to the admitted wards

Poison	Pediatric Emergency	Medical Emergency	Total	%age
Antibiotics	21	9	30	12.20
Anti-emetics	23	8	31	12.60
Malaria Drugs	23	10	33	13.41
Analgesics	22	9	31	12.60
Hypnotics / sedatives	29	11	40	16.26
Traditional Medicines	15	7	22	8.94
Combination of Medicines	19	6	25	10.16
Not Specified	26	8	34	13.82
Total	178	68	246	100.00

Table No. 3: Poisonous Household Products Distribution According to the Admitted Wards

Poison	Pediatric Emergency	Medical Emergency	Total	%age
Petroleum by-products	31	3	34	22.97
Pesticides	24	8	32	21.62
Caustic substances	37	7	44	29.73
Carbon monoxide	26	12	38	25.68
Total	118	30	148	100.00

Table No. 4: Venom Poisonous Distribution According to the Admitted Wards

Poison	Pediatric Emergency	Medical Emergency	Total	%age
Snake	9	15	24	42.11
Scorpion	1	4	5	8.77
Hymenopteran	0	9	9	15.79
Not specified	8	11	19	33.33
Total	18	39	57	100.00

The circumstances of poisoning cases are 70% accidental and 30 suicidal attempts. The conscious patients were 64% and about 76% were transferred to LGH within 1-5 hours after ingesting poisons. 67% cases were brought from city and other center. Private vehicles were the major transport to bring these cases which are 50% and 21% were on ambulance (mainly Rescue 1122).

Lahore general hospital has 40% interns/Postgraduate Trainees, 25% physicians and 35% are the nurses of the total. Poisoned patients (68%) were treated. Gastric lavage, symptomatic treatment and antidote treatments were used in 22%, 37% and 1% respectively. The foundation of the medical treatment was signs, history of the patients and physical examination. As there was no toxicology unit that's why toxicological analysis was not done to check the poisoning. Mortality rate was 4%. Mortality rate (15%) was observed in pediatric emergency. The major cause of death (42%) was wheat pill poisoning which is list down in Table No. 4. Unidentified nature of medicines was 35%.

DISCUSSION

This prospective study was conducted to analyze the cases of acute poisoning which were admitted in Pediatrics Emergency, Lahore General Hospital in Lahore. We collected data by studying medical record, by interviews the patients, their attendants and medical staff. This allowed to reduce the probability of errors and to get comprehension of data.

In this study, poisoning and its connection with the distribution of age, gender, and hospital emergency services show the importance of the finding. Therefore, children (under 15 years), high comply most effected group¹¹. Poisoning was mainly due to accidental poisoning cases, 65% of the cases. Acute poisoning in children under the age of 12 has very rare chance for suicide attempts with other instances of this literature.

With regard to care provided to poisoned patients, the use of emergency medical care is a systematic approach when our populations are at risk. In fact, some health centers now have quick help to bring their patients to a more complete center. Providing care to the emergency services does not respond to the patient's life-saving. After the entry of toxic patients, some activities are done depending on the poison (stomach injury, drug transfer and symptomatic treatment). On the other hand, cure is not used because the diagnosis is based on clinical signs, history and physical examination. Anti-doping therapies based on toxicological analysis are unlikely to be caused by a lack of toxicological laboratories¹². Acute poisoning results are in most cases positive, despite the difficulties associated with the lack of standardized procedures that need to be followed in the treatment of various types of poisoning, poisoning, specific treatment problems and inadequate training of personnel in clinical toxicology. In fact, most cases of

acute poisoning do not show any signs of seriousness. However, snake bites are the most serious and deadly thing, as the transfer to the LGH is delayed.

CONCLUSION

Acute poisoning has got a significant share among all the admissions in the Lahore General Hospital, Lahore. In children, acute poisoning can be expected by traditional medicine, self-medication and a large use of household products. The extensive care is provided to the poisoned patients in reasonable short span of time. The unavailability of appropriate equipment provided to the poisoned patients in emergency made it difficult for the doctors to handle these cases. It is recommended that a state of the art toxicology unit should be available and a formal training should be arranged for the medical staff of the hospital which ultimately will improve the care provided to the poisoning patients.

Recommendations: Medicine should be kept in a safe place to avoid accidental poisoning. Extensive care at the emergency should be state of the art to save the life. Antidote should be available at hand in emergencies. Poisons centers should be established in all big hospitals. Staff should be specially trained for handling such cases. Psychological rehabilitation centers should be established for patients attempting suicide.

Author's Contribution:

Concept & Design of Study: Pervaiz Zarif
 Drafting: Syed Zia Uddin
 Data Analysis: Naghmana Bashir
 Revisiting Critically: Pervaiz Zarif, Syed Zia Uddin
 Final Approval of version: Pervaiz Zarif

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Ouédraogo M, Ouédraogo M, Yéré S, Yéré S, Guissou I. Acute intoxications in two university hospitals in Burkina Faso. *Afri Health Sci* 2013; 12(4):483-486.
2. Verma V, Li J, Lin C. Neoadjuvant therapy for pancreatic cancer: Systematic review of postoperative morbidity, mortality, and complications. *Am J Clin Onco* 2016;39(3): 302-313.
3. Simon LH, Thomas HL. Clinical Toxicology of Newer Recreational Drugs. *Clin Toxicol* 2011;49 (8):705-719.
4. Sahin S, Carman KB, Dinleyici EC. Acute poisoning in children; Data of a pediatric emergency unit. *Iran J Pedia* 2011; 21(4): 479-484.
5. Lee, LH, Lin HJ, Yeh SY, Chi CH, Gou HR. Etiology and outcome of patients presenting for poisoning to the emergency department in Taiwan:

- A prospective study. *Human & Experimental Toxicol* 2008; 27(5):373-379.
6. Oraie M, Hosseini MJ, Islambulchilar M, Hosseini SH, Mehdi, Barzoki A, et al. A Study of Acute Poisoning Cases Admitted to the University Hospital Emergency Department in Tabriz, Iran. *Drug Res* 2016;67(3): 183-188.
 7. Hallbach J, Degel F, Desel H, Felgenhauer N. Analytical role in clinical toxicology: impact on the diagnosis and treatment of poisoned patients. *J Lab Med* 2009; 33(2): 79-87.
 8. Agarwal G, Bithu KS, Agarwal R. An Epidemiological Study of Acute Poisoning In Children in a Tertiary Care Hospital of Western Rajasthan, India. *Int J Contemp Pediatr* 2016; 3(4): 1249-1251
 9. Kożuchowska E, Krawiec P, Mroczkowska A, Mełges B, Pawłowska-Kamieniak A, Kominek K, et al. Patterns of poisoning in urban and rural children: A single-center study. *Advance Clin Exper Med* 2016; 25(2): 335-340.
 10. Clark BJ, Binswanger IA, Moss M. The Intoxicated ICU Patient: Another Opportunity to Improve Long-Term Outcomes. *Critical Care Med* 2014;42(6): 1563-1564.
 11. Ping Gong, Zhidan Lu, Jing Xing, Na Wang, Yu Zhang. Traditional Chinese medicine Xuebijing treatment is associated with decreased mortality risk of patients with moderate paraquat poisoning. *PLoS ONE* 2015; 10(6): 1-11.
 12. Soussan C, Sundström K, Andersson M, Kjellgren A. Poisoning casualties: Alcohol, pharmaceuticals or “Legal Highs”? Poisoning Cases at Emergency Rooms in the Swedish County Varmland in 2007-2013. *J Comm Medi Health Ed* 2015; 5(6): 386.
 13. Akbaba M, Nazlican E, Demirhindi H, Sutuluk Z, Gokel Y. Etiological and demographical characteristics of acute adult poisoning in Adana, Turkey. *Human Exper Toxicol* 2007;26(5): 401-406.