

Acute Oral Poisoning in Children in Kashmir

Javid Maqbool¹, Mohd Ashraf², Parvez Ahmed³, Asma Wani⁴

ABSTRACT

Introduction: Acute oral poisoning in children is potentially serious but a preventable cause of childhood morbidity and mortality. Most common age group involved is under five years in particular toddlers. Objective of our study was to study the clinical profile of acute oral poisoning among hospitalized children.

Material and Methods: This is a retrospective data analysis of admitted/deceased patients spanning over a period of one year from March 2018 to Feb 2019.

Results: The acute oral poisoning constituted 1.71% of total pediatric admissions. The organophosphorus poisoning was the commonest followed by kerosene and rat killer poisoning.

Conclusion: Organophosphorus ingestions are common acute oral poisoning especially among fruit growing community in Kashmir valley.

Keywords: Acute Poisoning, Kerosene, Organophosphorus, Pesticide

INTRODUCTION

Poisoning is one of the dominant causes of pediatric injury and hospitalization.¹ Despite major advances in promoting and maintaining good health, unintentional pediatric injuries including acute oral poisoning and continues to be leading pediatric health problem partly because of their developmental process and inquisitiveness.^{2,3}

Acute oral poisoning in India, is the 12th leading cause of admission among pediatric population with incidence varying from 0.3% to 7.6%.^{4,5} Poisoning in children is influenced by prevalent socioeconomic, demographic, educational, religious and cultural practices. Household substances such as kerosene, cleaning agents, and pesticides account for the majority of poisoning in India, whereas drugs are the common offending in west.

The most common age group for accidental oral poisoning is 1-3 years.⁶ This is partly attributed to the maturation of central nervous system where it demonstrates the achievement of milestones. Due to lower socio-educational background and poor storage facilities the incidence tends to be higher among children from this strata of society. It has been observed that easy availability, colorful, attractive, and tasty things are ingested with ease.^{7,8} Objective of our study was to study the clinical profile of acute oral poisoning among hospitalized children.

MATERIAL AND METHODS

This retrospective study was based on the data analysis of the records of the discharged and deceased patients, hospitalized in our tertiary care center, from March 2018, to Feb 2019. The study was approved by the research and ethics

committee of the institution. The study was undertaken to know the burden and pattern of oral poisoning among the hospitalized pediatric patients, of Kashmir valley of J&K. Inclusion criteria: All the children from 1- 18 years of age of both sexes who were hospitalized with an established or alleged history of accidental, suicidal or homicidal ingestion of drugs or drugs (pesticides, hydrocarbons, Plant plant-products, corrosives etc.) were included in this study. However children with history of a) Food poisoning, b) toxic or idiosyncratic reactions, c) bee sting poisoning were excluded

The following information was collected for data analysis: Age, gender, socio-economic background, weight, provisional diagnosis, and treatment given. The diagnosis of poisoning was based upon a detailed clinical history and a meticulous clinical examination followed by investigation.

RESULTS

Total number of hospitalized patients during the study period were 19848, where 340 patients were diagnosed as acute oral poisoning contributing 1.71% to the total admissions. Among these 51% (174/340) were males (Table 1). The organophosphorus turned out to be the commonest ingested substance amounting to 44% (150/340) cases (Table 2).

DISCUSSION

Acute oral poisoning in children is potentially dangerous but a preventable act for their optimal growth and development.

Age (years)	No. of cases	Males	Females
1-5	180	95	85
6-12	135	70	65
13-20	25	09	16
Total	340	174	166

Table-1: Age and sex distribution in the various types of poisoning

¹Senior Resident, Department of Pediatrics, Government Medical College, Srinagar, ²Lecturer Pediatric Nephrology, Department of Pediatrics, Government Medical College, Srinagar, ³Associate Professor, Department of Pediatrics, Government Medical College, Srinagar, ⁴PG Scholar, Department of Pediatrics, Government Medical College, Srinagar, India

Corresponding author: Dr. Mohd Ashraf, Lecturer Pediatric Nephrology, Department of Pediatrics, Government Medical College, Srinagar Kashmir, J&K.

How to cite this article: Javid Maqbool, Mohd Ashraf, Parvez Ahmed, Asma Wani. Acute oral poisoning in children in Kashmir. International Journal of Contemporary Medical Research 2020;7(2):B1-B2.

DOI: <http://dx.doi.org/10.21276/ijcmr.2020.7.2.33>



Nature of poison	No. of cases	Accidental	Suicidal
Organophosphorus	150	140	10
unknown	109	109	-
kerosene	20	20	-
Rat poison	20	18	2
Paracetamol	15	15	-
Mosquito repellent	12	12	-
Dhatura	05	05	-
Thyroxine	05	05	-
corrosives	04	04	-
Total	340	328	12

Table-2: Nature and mode of poisoning in the different age groups in oral poisoning

In our study poisoning contributed for 1.71% of total Pediatric admission, which is comparable to the earlier studies conducted in India.⁹ Our study did not show any gender bias which is contrary to the study conducted by Shashidhar V et al and Kariyappa M et al, who have shown male and female preponderance in acute poisoning respectively, which can be explained by their more heterogenous study population.

Our study shows that nearly more than half of the affected children were less than 5 years old which is similar to the earlier studies conducted in India and Nepal.^{5,11} This pattern is due to curious and exploratory nature of under 5 children and their tendency to mouth objects.

Our study depicts that most of the poisoning cases (96.447%) were accidental in nature which is in congruent with the study conducted by Shashidhar V et al.¹⁰, while suicidal attempts were also noted in 3.52% of children who belonged to the adolescent age group which could be due to their impulsive nature, overreactive behaviour, or increase in peer pressure or conflicts with parents/circumstances.

Most of the consumed substances in our study were the ones present at home and commonest among them was organophosphorus poison. This can be explained by the fact that most of the patients belonged to the fruit growing background where the family keeps these organophosphorus substances in various containers at home and any unwanted activity by the child may end up with acute oral poisoning. Second common acute oral poisoning was due to kerosene and rat kill poisoning 5.88% each. However it is worth to note that our incidence is lower than the previous studies from other studies in India where incidence of Kerosene is around 25%^{12,13}, which could possibly be due to less kerosene use here in Kashmir valley, while rat killer substances are more commonly used by the farmers, which forms the one of the main life sustaining activity in villages of Kashmir.

CONCLUSION

So be it organophosphorus, kerosene, or rat killer substances, it is the lack of adequate awareness about the potential lethal effects of these substances and non-availability of the child-proof containers, along with ignorant parenting which predisposes many children to accidental and suicidal poisoning.

REFERENCES

- World Health Organization. World report on child injury prevention. Switzerland: World Health Organization, 2008. 9241563575
- Schmertmann M, Williamson A, Black D. Stable age pattern supports role of development in unintentional childhood poisoning. *Inj Prev* 2008;14: 30–33.
- Agran PF, Anderson C, Winn D, et al. Rates of pediatric injuries by 3-month intervals for children 0 to 3 years of age. *Pediatrics* 2003;111:e683–92.
- VASAVADA H, DESAI P. Clinical profile and outcome of children presenting with poisoning (a hospital based study). *Natl J Integr Res Med* 2013;4:1-7.
- Budhathoki S, Poudel P, Shah D, Bhatta NK, Dutta AK, Shah GS, et al. Clinical profile and outcome of children presenting with poisoning or intoxication: A hospital based study. *Nepal Med Coll J* 2009;11:170-75.
- Basu M, Kundu T K, Dasgupta M K, Das D K, Saha I, Poisoning, Sting and Bites in children-what is new? An experience from a tertiary care hospital in Kolkata. *Indian J Public Health*. 2009; ;53: 229-31.
- Kant S, Layland F, Rajniti P, Shivani S. Poisoning in Children. 4th ed. New Delhi: Jaypee Brothers Pvt. Ltd.; 2012.
- Wilkerson R, Northington LD, Fisher W. Ingestion of toxic substances by infants and children. What we don't know can hurt. *Crit Care Nurse* 2005; 25:35-44.
- Dutta AK, Seth A, Goyal PK et al. Poisoning in children: Indian scenario. *Indian J Pediatr* 1998; 65: 365-70.
- Shashidhar V, Yogesh G. Profile of Pediatric Poisoning at District Hospital Gulbarga. *Int J Med Res Rev*. 2013; 1: 245-49.
- Kariyappa M, Benakappa A, Kejjiah AK. Spectrum of Poisoning in Children: Study from Tertiary Care Hospital in South India. *Journal of Evidence based Medicine and Healthcare*. 2015;2:4989-99
- Singh S, Singhi S, Sood NK, Kumar L, Walia BN. Changing pattern of childhood poisoning (1970-1989): Experience of a large North Indian hospital. *Indian Pediatr* 1995;32:331-6.
- Jayashree M, Singhi S. Changing trends and predictors of outcome in patients with acute poisoning admitted to the intensive care. *J Trop Pediatr* 2011;57:340-6.

Source of Support: Nil; **Conflict of Interest:** None

Submitted: 02-08-2019; **Accepted:** 05-11-2020; **Published:** 29-02-2020