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Original Research Article

A retrospective study of clinical profile and outcome of children admitted with poisoning in tertiary care hospital, Port Blair

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ABSTRACT

Background: Poisoning is one of the most common causes for mortality and morbidity in children. Knowledge about the demographic profile, clinical characteristics and outcome of children hospitalized with poisoning will aid in better case management and optimizing appropriate preventive measures.
Methods: A retrospective study of poisoning in children was conducted at the Andaman and Nicobar Islands Institute of Medical Sciences (ANIIMS), Port Blair, Andaman and Nicobar Islands, India, between January 2016 to June 2020. Clinical profile and outcome details were entered in standardized proforma and descriptive analysis was performed.
Results: Poisoning accounts for nearly 0.7% of total paediatric admissions. Eighty eight percent of accidental poisoning occurred in children younger than five years of age. Kerosene (50%) and drugs (15%) are the leading causes of poisoning in children. Twenty three percent (23%) of children with Kerosene poisoning had chemical pneumonitis. The average length of hospital stays for children hospitalized for poisoning was 2 days.
Conclusions: Children under five years of age are more prone for accidental poisoning. Kerosene is the commonest cause of poisoning in children. This study highlights the importance of creating public awareness about poisoning in children and the need for sensitising parents about the appropriate preventive measures.

Keywords: Children, Poisoning, Kerosene

INTRODUCTION

Poisoning is one of the common causes of hospitalization in children younger than 5 years of age. Incidence of acute poisoning in children varies from 1.5-5.6% and it accounts for nearly 3.3% of paediatric intensive care unit admissions.[1-3] As per WHO report on child injury and prevention 2008, nearly 45,000 children and young people die every year due to acute poisoning.[4] Mortality rate is 4 times higher in low-income countries compared to high-income countries.[4] Most of the poisoning in children are accidental in nature and boys are more commonly affected by poisoning worldwide.[2,4,5] Type of poisoning agent, incidence of childhood poisoning and its outcome varies globally depending on multiple factors like type of commonly used household chemicals, cultural practices, socioeconomic status, availability of antidote, health care facility etc. Kerosene, drugs and pesticides are common causes of acute poisoning in children.[2,3,6,7]

METHODS

This retrospective study was conducted in the Department of Paediatrics, ANIIMS, which is a tertiary care hospital in Port Blair, Andaman and Nicobar Islands, India. Institute Scientific Research Committee (ISRC) approval was obtained. The study data was collected from January 2016-June 2020 (54 months). All children (age <12 years) admitted with history of poisoning were

included in the study. The details regarding demographic profile, type of poison, nature of poisoning, clinical features and outcome were obtained retrospectively from their medical records and entered in the standardized proforma.

Study data compiled by EpiData software and descriptive statistical analysis performed by PSPP software.

RESULTS

During study period 7161 children were admitted in Paediatrics Department, among which 0.7% (n=52) were due to poisoning. Demographic characteristics of the study population are summarized in Table 1.

Table 1: Demographic characteristics of study population, (n=52).

Patient details	N	Percentage (%)
Age (Years)		
< 2	31	60
2-5	15	28
5-10	04	08
10-12	02	04
Gender		
Male	35	67
Female	17	33
Nature of poisoning		
Accidental	51	98
Suicidal	01	02

Table 2: Type of poisoning agent and clinical profile of study population.

Patient details	N	Percentage (%)
Type of poisoning agent		
Kerosene	26	50
Drugs	08	15
Mosquito repellent	04	08
Rat poisoning	04	08
Corrosives	03	06
Pesticide	02	04
Others*	05	09
Clinical features		
Vomiting	19	37
Cough	13	25
Breathlessness	05	10
Abdominal pain	04	08
Altered sensorium	03	06
Fever	03	06
Diarrhoea	02	04
Seizure	01	02
Length of hospital stay (Days)		
<3	25	48
3-7	24	46
7-14	02	04
>14	01	02

Others*-Detergent-3, Camphor-1, Phenol-1.

Children under 5 years of age constitute 88% (n=46) of poisoning cases with a mean age of 3 years and most of the cases were accidental in nature (n=51, 98%). Among 52 subjects, 25% were referred from peripheral health centres. Details regarding type of poisoning agent and clinical profile are summarized in Table 2. Kerosene (n=26, 50%) and drugs (n=08, 15%) are leading causes of poisoning in study population. Vomiting (n=19, 37%) and cough (n=13, 25%) are predominant presenting symptoms.

DISCUSSION

In our study, poisoning constituted 0.7% of pediatric admissions which is similar to studies by ZulEidain et al and Manjunath et al.[1,8] Male:female ratio was 2:1 in our study which is identical with other studies as well.[2,5,9] Most of our poisoning cases were accidental in nature (n=51, 98%) which was similar to observations in other studies.[2,5,8] The forty five (88%) children of our study population were less than 5 years of age, among which 68% were under 2 years of age with mean age of 3 years and the findings were comparable with studies done by Sridhar et al and Kohli et al.[2,5] Kerosene (n=26, 50%) and drugs (n=8, 15%) are the common poisoning agents in our study which is similar to other Indian studies.[2,3,10,11] In our study cough and vomiting are the common presenting symptoms followed by breathlessness and abdominal pain. Among 26 children admitted with kerosene poisoning, 18 (69%) were under two years of age and six (23%) of them developed respiratory distress due to chemical pneumonitis requiring oxygen support. All the study subjects improved with supportive management and most of them (48%) were discharged within 3 days with average length of hospital stay being 2 days. Parents and caretakers were counselled on safe handling of drugs and household chemicals before discharge.

CONCLUSION

Inquisitive nature and increased mouthing behaviour make children more prone for accidental poisoning compared to adults. Appropriate preventive measures like proper packaging of household chemicals, keeping the chemicals out of reach of children, creating public awareness and sensitizing school children will significantly reduce the burden of childhood poisoning in the community. Furthermore, training medical officers at the peripheral level will improve the outcome of childhood poisoning.

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