

Profile of poisonings in children in south Kashmir, north India.

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Abstract

Background: Pediatric poisoning is a common emergency worldwide. Routine surveillance is required for public health authorities and physicians to update strategies for prevention and management of pediatric poisoning. This study investigated the epidemiology of poisoning among children admitted to Pediatric ward.

Methods: This was a retrospective descriptive study. Data were collected from patients under 12 years old presenting with poisoning at maternity and child care hospital Anantnag from March 2018 to April 2020. Demographic and etiological factors were retrospectively analysed by using spss 12 software.

Results: The poisoned children 234 represented 1.6% of total pediatric admissions during the study period. included 127 males (54.27%) and 107 females (45.72%). in the age group between 0 to 1 year male female ratio was 1.1:1. above 1 year age males and above 5 years males predominate 1.5:1 and 2.1:1 respectively. organ phosphorous poisonings is the most common type of poison (n=125, 53.41%), all the cases were unintentional poisoning. Home was the commonest place where poisonings took place (n=193, 82.47%). Most cases of poisonings presented in April (28.1%) followed by May (25.11%).

Conclusion: Most poisonings occurred in young children, common in males, at home; by unintentional ingestion. Organ phosphorous poisoning was the most common type poisoning. This kind of information enables emergency department physicians to improve preparations for pediatric poisoning cases and allows public health authorities to sharpen the focus of poisoning preventive strategies

Keywords: Poisoning, Children, Organ phosphorous poisoning.

Introduction

Poison is a substance which if introduced in the body by any route could lead to ill health or death pediatric poisonings is a common emergency worldwide. Poisonings occurs when substance is inhaled injected, ingested, or absorbed through skin in quantities that are harmful to body. Poisoning is a significant contributor to morbidity and mortality throughout the world. WHO has estimated that 3, 45,814 people globally died due to accidental poisoning in 2004, of which 13% were below 20 years? Some 45,000 under 20 years died yearly due to acute poisoning. Worldwide estimates suggest that the rate of poisoning in under 20 years is 1.8 per 100,000 population and south east Asia documented 1.7 fatal child poisoning cases per 100,000 population such cases constitute 1-2% total pediatric admissions in our country [1]. Data on nonfatal outcomes of childhood poisoning is not readily available at present, although these outcomes are more prevalent and equally worrisome as they may have lifelong burden on the victims considering the young age in which they sustain these injuries. In the majority of cases, poisonous substances are inadvertently ingested at home by children due to their inherent curiosity and

exploratory nature. Many studies from the developed countries show that common household products, medicinal substances, are now implicated in the majority of pediatric poisonings [2]. There is drastic rise in acute poisoning due to Organophosphorous compounds in Kashmir due to their, trend of frequent use of pesticides and insecticides for horticultural and agricultural use in Kashmir. Even in same area, the ethology and demography of pediatric poisoning changes with time, regular surveillance is required to recognize trends in specific agents and other variable involved in childhood poisoning. Knowing these factors helps healthcare authorities improve their planning for poisoning prevention programs, adjust hospital beds utilization and upgrade management of antidote stockpiles [3].

Aims and objectives

- To investigated frequency of acute poisoning in children,
- Demographic profile and agents involved in acute poisonings in south Kashmir

Materials and Methods

Setting

The present retrospective study describes the epidemiology of a pediatric population with acute poisonings admitted to the Pediatric Department of govt. Medical College Anantnag Kashmir, which is a tertiary care hospital in south Kashmir [4]. We retrospectively reviewed the last 2 years (March 2018 to APRIL 2020) hospital records of pediatric emergency department.

Inclusion criteria

All cases of age less than 12 years with definite history of definite unintentional poisonings.

Table 1. Age and gender distribution of the children.

Age Group	Gender		Total	Ratio
	Male	Female		
0-1 year	10	9	19	1.1:1
1-5 years	110	71	181	1.5:1
more than 5 years	26	12	38	2.1:1
Total	146	92	234	1.58:1

The study population included 127 males (54.27%) and 107 females (45.72%) in the age group between 0 to 1 year male female ratio was 1.1:1. above 1 year age males and above 5 years males predominate 1.5:1 and 2.1:1 respectively (Table 2) [6].

Table 2. Types of poison commonly encountered in the present study.

Type of poison	Number	Percent
Organo phosphorous	125	53.41
Household poisons	33	14.1
Rat poison	14	5.98
Naphthalene balls	4	1.7
Fertilizer	6	2.56
Kerosene oil	18	7.69
Medicinal poisoning	15	6.41
Plant poison	4	1.7
Corrosives	3	1.28
Unknown	12	5.12

Organ phosphorous poisoning is the most common type of poison (n=125,53.41%), House hold poisonings (including soap, shampoo,) is the second common type of poisoning 33

14.10;plant(dhatura)poisonings was seen in 4 (1.70%) cases (Table 3) [7].

Table 3. Places of poisonings.

Place	Number	Percent
At home	193	82.47
Home surroundings	18	7.69
Farm	8	3.41
Unknown	15	6.41

Commonest place of poisonings was home (82.47%) followed by home surroundings (7.69%)

In 6.41% cases exact place was not known (Table 4) [8].

Table 4. Monthly distributions of poisonings cases.

Month	Number	Number	Percent
Jan	nil	nil	nil
Feb	nil	nil	nil
March	11	9	11.03
April	28	30	28.1
May	25	26	25.11
June	16	12	21.12
July	11	9	11.03
August	9	6	6.41
September	13	10	9.82
October	7	8	6.4
November	2	1	1.28
December	nil	1	0.42

Poisoning occurred mostly in spring and summer and peak (12.8% of poisoning was observed in April. The most common route of poisoning was the ingestion of poison in 243(86.5% patients [9]. The remaining was poisoned by respiratory route (13.35%, n=38.

Results and Discussion

The poisoned children represented 1.6% of total pediatric admissions in our study; results are similar to other studies in India and worldwide [10]. Various studies from India as reported that childhood poisoning is more common in males and similar pattern was observed in the present study. Children between less than 5 yrs. were most commonly involved in the present study, a pattern consistent with most of the other studies in India and abroad notable exception being Japan where infants are most commonly involved. Organ phosphorous compounds, house hold poisons kerosene and rat poison in decreasing order of frequency, were commonly implicated in our study [11]. These results are consistent with similar studies. This is contrary to studies from India and adjoining regions that have shown that kerosene is the major culprit in majority of childhood poisoning. This is explained by the fact in Kashmir majority of families are involved with horticulture and agricultural activities, organ phosphorous compounds and insecticides are used for spraying are easily available at home during spraying season and are kept at places easily reachable to kids. Kerosene poisoning has been reported most common poisonings in other studies [12]. This is contrary to our study probably because of less use of kerosene in this

part of India. Rat poison was fourth most common poison in our study used by farmers for killing rodent in god owns and horticulture land [13]. All cases were of accidental poisoning. Intentional poisoning was not seen in our study probably because our study population mainly consisted from patients below 12 years of age and deliberate self-harm in children below 12 years is reported to be very uncommon. Most common route of poisoning was ingestion followed by inhalation as reported by similar studies most cases of poisonings were reported in April due to the reason pesticides are commonly used in this season. Most cases of poisoning occurred at home followed by at work place, same has been reported from similar studies [14-15].

Among medicines antiepileptic were mostly used by poisoned children. For preventing poisonings in children with medicines previous studies have emphasized on keeping them out of reach of children. WHO has earlier stressed on laws mandating childproof packaging of medicines. Our research has some limitations. It was done retrospectively. So, it is possible that not all medical data have been recorded into the files of patients.

Conclusion

Preventable accidental poisonings are still a significant cause of morbidity among children in developing countries. Pesticides, household substances and kerosene poisoning trends for pediatric poisoning noted at our centre. According to this study Organ phosphorous poisoning is the leading cause of accidental poisoning in children in this region. This study

enables paediatricians to prepare the management plan for poisoning patients and health authorities to sharpen their focus on poisoning preventive efforts simple measures like parental education, safe storage, and use of child proof packing and containers for drugs, could be effective in preventing a large proportion of morbidity and mortality related to childhood poisoning.

Conflict of Interest

None to be declared.

Ethical Committee Approval

Not required.

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None.

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