ORIGINAL RESEARCH PAPER

Emergency Medicine

PROFILE OF THE ACUTE POISONING CASES TREATED IN TERTIARY CARE HOSPITAL OF JHARKHAND: A DESCRIPTIVE STUDY

KEY WORDS: Acute poisoning cases, burden and outcome.

Dr Soma Oraon* Assistant Professor, Department of Medicine,SBMCH, Hazaribag. *Corresponding Author

Dr Anju Prabha Kumari Specialist Medical Officer, Department of Medicine, SBMCH, Hazaribag

Dr Manoj Kumar Purty Assistant Professor, Department of Pharmacology, SBMCH, Hazaribag.

ABSTRACT

Background: Poisoning is a global medico-social problem. Objectives: to estimate the burden of acute poisoning cases and to assess their outcome. **Material and Methods:** A retrospective cross-sectional study of all registered poisoning cases admitted in male ward, Department of Medicine, Sheikh Bhikhari Medical College and Hospital, Hazaribag from July 2022 to December 2022. Data were entered in Microsoft Excel sheet, frequency, distribution, mean, standard deviation were computed. **Result:** More than Half (61.4%) of the acute poisoning cases were of age group, 21-40 years of age. Organophosphorus (17.9%) and Celphos (13.6%) were the main poison ingested by the patients and more than two third (76.1%) were discharged. **Conclusion:** In conclusion, this study suggests that acute poisoning cases are common in Hazaribag and economically active group are most vulnerable. Preventive measures and strengthening of treatment facilities to be considered equally.

INTRODUCTION:

Poison may be defined as any agent that can injure, kill, or impair normal physiological function in human, producing general or local damage or dysfunction in the body.[1] Acute poisoning is a result of deliberate or accidental or homicidal ingestion of harmful chemical substance into the body. Ingestion of poison is one of the most common modes of suicide in low-income and middle-income countries such as India and a leading cause of morbidity and mortality in India [2-6]. Sheikh Bhikhari Medical College and Hospital, Hazaribag, newly established college in 2019, with limited human resource, presently using the infrastructure of District hospital Hazaribag, and is treating 150-200 patients every day in emergency. Preparedness of the emergency doctors that is prompt recognition of toxidromes and establishment of immediate treatment facilities like availability of antidotes is crucial to handle acute poisoning cases. With this background, this study was conducted to estimate the burden of acute poisoning cases and the outcome of the admitted patient.

MATERIAL AND METHODS:

A retrospective cross-sectional study was conducted, using records from the registers of male ward, Department of Medicine, Sheikh Bhikhari Medical College and Hospital, Hazaribag from July 2022 to December 2022. A structured performa was used to collect data regarding patients' demographic details, type of poison used, duration of hospital stays, and outcome of all patients of acute poisoning cases. Data were entered in Microsoft Excel sheet, frequency, distribution, mean, standard deviation were computed.

RESULT:

A total of 184 male patients recorded as acute poisoning cases. Mean (SD) age and duration of Hospital stay was 32.27(14.374) and 2.86(1.280) respectively.

The Demographic profile and details of the substance used is presented in Table 1 and Table 2 respectively.

Duration of hospital stay and outcome of the acute poisoning cases are depicted in Figure 1 and Figure 2 respectively.

No seasonal variation seen, in hospital admission of acute poisoning cases, in our study

Table 1. Demographic profile of the poisoning victims admitted in Male medicine ward (n=184)

Variable		Frequency	Percentage
Age (in years)	20 & below	34	18.5
	21 to 40	113	61.4
	41 to 60	29	15.8
	61 & above	8	4.3
Residence	Hazaribag	128	96.7
	Other district	6	3.3

Table 2 Different substance used in poisoning by the study population(n=184)

Substance used for poisoning	Frequency	Percentage
Organophosphorus	33	17.9
Celphos	25	13.6
Ratkill	10	5.4
Phenol	11	6
Drug overdose	3	1.6
Unknown	102	55.5

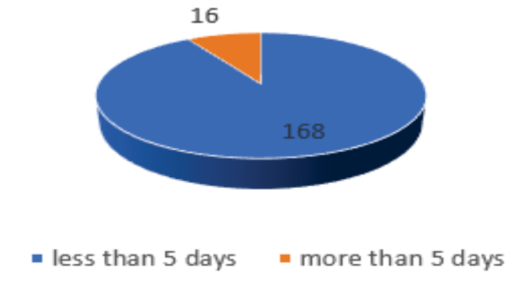

Figure 1 Total duration of Hospital Stays(n=184)

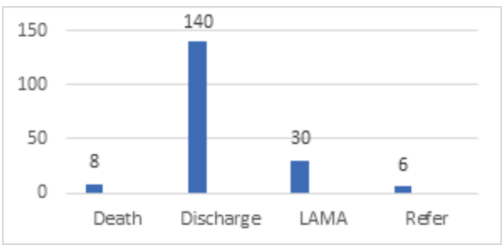

Figure 2 Outcome of the Admitted patients(n=184)

DISCUSSION

Our study revealed that more than a half (61.4%) of the total recorded cases are of economically productive age group. Most of the cases the poisoning is for self-harm. Possible

reason could be depression for academic future, relationships and worry for career. Irrespective of the intent behind acute poisoning the affected population impacts the nation socioeconomically. Majority (96.7%) of the admitted were local residents of Hazaribag.

In our study, more than half (55.5%) the substance used for poisoning was unknown. The agitated patient and the attendant are unable to provide information about the ingested substance. Many a time the attending emergency doctor fails to take proper history or document properly due to overloaded stressful surroundings. Among the known documented poison, Organophosphorus (17.9%) followed by Celphos (13.6%) together accounted for nearly one third of the cases. Globally, pesticide ingestion remains a common form of acute poisoning, accounting for at least one in seven self-poisoning and about two hundred thousand deaths annually. [7,8] Because low-middle-income countries (LMIC), predominantly have agriculture-based economies, easy accessibility of pesticides results in a high incidence of poisoning. [9-11] In India, organophosphate and aluminum phosphide are the most common pesticides that cause acute poisoning. [12-18]

Regarding duration of hospital stay, majority (91.4%) of the patients stayed for less than 5 days. This suggests the efficient patient care by the hospital team. Study done by Rajesh et al, showed longer duration of hospital stay that is 12.53 ±7.53. [6] In our study, more than two third cases of acute poisoning were cured and discharged. Outcome of the acute poisoning cases depends upon the individual treatment response rate and presence of complication. The retrospective record-based study, small sample size, and convenience sampling technique are the limitations of our study.

CONCLUSION:

Based on our findings, our study suggests that acute poisoning cases are common in Hazaribag and economically active age group is found to be more vulnerable. Primary prevention of self -harm through improving public awareness on proper handling and storage of chemicals, Availability and accessibility to mental health centre are highly recommended. More prospective studies are reruired.

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