

Pattern and Outcome of Poisoning Cases at a Tertiary Care Hospital– A Cross-Sectional Study

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Abstract

Introduction: Over the last few years, the global problem of acute poisoning has steadily increased. In developing countries, it is a major source of morbidity and mortality. If the frequency and pattern of acute poisoning are known, appropriate prevention and management methods can be created. The purpose of this study was to assess the profile and outcomes of acute poisoning patients admitted to a tertiary care hospital

Methods: This Retrospective, observational study was performed in the patients admitted to tertiary care hospital, Perambalur with the history of poisoning between July 2020 to November 2021. Data was collected by reviewing records. Using a pre-structured format, case records of poisoning cases were reviewed for gender, age, type of poison, manner of poisoning and outcome of treatment. The collected data was analysed using descriptive statistical analysis

Results: In the present study, among 80 cases, the majority were females. The most incidence of Poisoning were reported in the cases aged 21-30 years. As a method of poisoning, suicidal intent accounted for 77.5%. The most common implicating agents were Pesticides (72.5%). The second common cause of poisoning was drug overdose (21.25%) Maximum cases recovered after treatment (97.5%).

Conclusion: To effectively manage OP and drug poisoning, strong laws must be established against the sale and availability of agricultural field products and over the Counter drugs. In rural and semi-urban areas, there should be a public awareness campaign about how serious the problem is. This could be done through health education and educating people on the first aid measures in the case of poisoning.

Keywords: Poisoning, Pesticides, Drugs, Suicide. Organophosphorus

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Introduction

Poisoning occurrences, both accidental and purposeful (homicidal/suicidal), contribute significantly to global mortality and morbidity [1]. Poisoning is one of the most common causes of death in India. Poisoning is the impairment of the body's functions caused by the consumption of any poisonous substance or by overdosing

on a harmless chemical at a normal dose [2]. In general, children are more prone to accidental poisoning, whereas young adults are more prone to suicidal poisoning. A medicine in a toxic dose is a poison, and a poison in a small dose may be a medicine. In the eyes of the law, the main difference between a medicine and a

poison is how it is used. If you give someone something to save their life, it's a medicine. If you give them something to hurt their body, it's a poison [3,4]. Patterns of poisoning in a region depend on many things, such as the availability of poisons, the population's socioeconomic status, religious and cultural influences, and the availability of drugs [5].

Self-harm is a big problem for public health in many developing countries, like India [6]. Self-harm kills 500,000 people in Asia every year. It is thought that OP poisoning is to blame for 200,000 of these deaths [7]. Pesticides are easy to get through local markets that aren't regulated and are open to anyone. People also don't know how to store and use these dangerous chemicals properly, which makes the number of people hurting themselves with pesticides go up [8].

The present study was conducted with the objective to investigate the pattern and outcome of acute poisoning cases in a teaching hospital.

Materials and Methods

A retrospective, observational study was conducted in a teaching hospital, Dhanalakshmi Srinivasan Medical College and Hospital, Perambalur between July 2020 to November 2022. The study commenced after getting approval from the institutional Ethical Committee. The

study population consisted of 80 cases that were admitted, and data obtained from retrospectively examining medical case sheets. The permission to review the case records were obtained from the medical records department. Poisoning was diagnosed by history given by patient and relatives, clinical features, investigations and response to treatment.

Inclusion Criteria: All cases of acute chemical, vegetable, pharmaceutical and food poisoning cases irrespective of age and sex.

Exclusion Criteria: Cases with animal envenomation and drug reactions

A detailed report regarding the demographic details, manner of poisoning, type of poison, and survival outcomes was collected from the case sheets in the medical record department and transferred to data entry format. The collected data were analyzed for their appropriateness, and based on that data interpretation was made. The results were statistically analyzed.

Results

The data from the medical record room revealed about 80 cases were admitted with the diagnosis of poisoning during that period. The incidence of poisoning was more among females (53.75%) as compared to males (46.25%). This was shown in Table 1

Table 1: Gender wise distribution of poisoned cases

Gender	Frequency	Percentage (%)
male	37	46.25
female	43	53.75
total	80	100

The incidence of poisoning was more between the age group of 21 and 30 years (40%) and least in the older age group between 61 and 70 years (7.5%). This was shown in Table 2

Table 2: Age wise distribution of poisoned cases

Age (in years)	Frequency	Percentage (%)
11-20	15	18.75
21-30	32	40
31-40	12	15

41-50	8	10
51-60	7	8.75
61-70	6	7.5

Manner of poisoning

Shows that Incidences of suicidal cases (74.73%) were highest in the present study followed by accidental (14.83%) poisoning. 19 cases (73.56%) were of undetermined origin. This inference is based on history. This is shown in Table 3

Table 3: Manner of Poisoning

Manner	Frequency	Percentage (%)
Suicidal	62	77.5
Accidental	18	22.5

Type of poisoning

Pesticides were the most common agents implicated in poisonings followed by medicines. organophosphates were the most commonly used pesticides in the poisonings followed by aluminium phosphide. Among medications the most common used drugs were sedatives, followed by NSAIDs & anti depressants. Use of rodenticides contributed to 4% of poisonings due to household products. This was shown in Table 4

Table 4: Type of Poisoning

Pesticides	Frequency	Percentage (%)
Organophosphorus	58	72.5
Aluminium Phosphide	2	2.5
Medicines		
Sedatives	11	13.75
NSAIDS	3	3.75
Anti-depressants	3	3.75
Household products		
Rodenticides	3	3.75

Outcome

Outcome was good in almost all patients. Death occurred only in two cases, both of which were organophosphorus poisoning.

Discussion

Poisoning is one of the most serious public health issues producing significant morbidity and mortality worldwide. Its occurrences are increasing every day. Due to changes in lifestyle and social behaviour in modern society, the burden of poisoning is greater than ever before in many respects. According to numerous sources, the most common causes of intentional poisoning include stress resulting from the loss of a business, a failed relationship or disagreements with the intimate partner or

an examination, emotional difficulties, and chronic diseases. Acute pesticide poisoning is one of the leading causes of intentional death in the world [9].

Similar to another study conducted in Coimbatore between 2010 and 2012 [10], women outnumbered men in the present investigation. According to the findings of Kumar *et al.* [11] and Khosya and Meena [12], the incidence of poisoning was highest in the age group of 21 to 30 years. Between the ages of 21 and 30, mental stress is more prevalent. Stress resulting from education, unemployment, the start of a new job, settling into adulthood, etc.

Pesticides were the most often identified agents in intentional poisonings in our

investigation, as pesticides are readily available and inexpensive. Organophosphates were the most often implicated insecticides, followed by aluminium phosphide. Similar research patterns have been observed in prior investigations [13,14].

Conclusion

To effectively manage OP and drug poisoning, strong laws must be established against the sale and availability of agricultural field products and over-the-counter medicines. Public/private medical experts may reduce the frequency by providing personnel guidance or counselling to students, unemployed individuals, agricultural producers, and housewives. It would be beneficial to launch a large-scale effort to educate people about the potential risks of poison.

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