https://doi.org/ 10.33472/AFJBS.6.10.2024.4786-4809

African Journal of Biological Sciences

Journal homepage: http://www.afjbs.com

Research Paper Open Access

TRENDS AND OUTCOMES OF DIFFERENT POISONING CONDITIONS

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Article History

Volume 6,Issue 10, 2024

Received:29 Apr 2024

Accepted : 27 May 2024

doi: 10.33472/AFJBS.6.10.2024.4786-4809

ABSTRACT:

Background: The present study aims to explore various dimensions of poisonings alongside psychiatric comorbidities linked to different poisoning scenarios, to improve clinical care practices and inform public health strategies.

Methodology: It was a prospective observational study with 123 poisoned patients who have been admitted at Maharaja Institute of Medical Sciences (MIMS) hospital during our study period.Through organized surveys and direct interactions with poisoning victims, the data was acquired.

Results:

40(32.5%) were found to be attributed to Pesticide poisoning. In snake poisoning, among 46 cases, 28(22.7%) were reported as hemotoxic, 11(8.9%) as neurotoxic, and 7(8.9%) as unknown. Disinfectant poisoning was observed in 12(9.7%) patients, Drug poisoning in 15(12.1%) patients, and other poisoning cases in 10(8.1%) patients.Pesticide poisoning was more prevalent among patients aged 15-30, suggesting a correlation between age and severity.

Conclusion: Snake poisoning cases were the most frequent. Deliberate self-poisoning incidents outnumbered accidental cases. Patients who deliberately poisoned themselves often had psychiatric comorbidities, mainly depressive disorders, linked to couple conflicts and changes in financial status.The statistical data reveals that there is no significant relationship between the severity of the poisoning and the duration from the time of poison exposure to the hospital arrival.

Keywords: Poisoning, Supportive measures, Treatment outcome, Psychiatric comorbidities

INTRODUCTION:

Researchersdescribed the term "poison" as derived from the Latin word " potionem " and from the Greek word " Toxicon " which refers to ingesting, inhaling, or contact with a chemical (also known as a poison or toxin) that may lead to the illness or deaths or any substance which causes detrimental effects on the body when consumed, inhaled, injected, or absorbed through the skin is referred to as a poison,Tarlok Set al.,(2015)

WoyessaA H et al., (2020) in their article showed that the increasing poisoning risk in developing countries threatens public health, causing higher morbidity, mortality, hospitalization, and financial strain. Comprehensive regional poisoning data is essential for effective diagnosis, treatment, and prevention. Kumar R et al., (2023) stated that the WHO estimates three million yearly poisoning cases worldwide, with 640,000 fatalities, over 90%

in developing countries, notably among agricultural workers. In India, poisoning ranks fourth in causes of death, with mortality rates at 20% to 30%.

Goel A. and Aggarwal P.(2007) characterized pesticides as a combination of chemical, biological, andantimicrobial activities. Exposure to pesticides can occur accidentally, occupationally, or intentionally. Most acute pesticide poisoning deaths stem from deliberate self-exposure to paraquat, aluminum phosphide, and organophosphorus pesticides. Kassahun M and Wongiel S(2019) point out that food poisoning, whether infectious or not, arises from consuming contaminated food or water. Bacteria, viruses, parasites, or toxins can cause this condition, known as food-borne disease.ChaudharyM (2020)stated that snake bites which are common in rural areas, are potentially fatal emergencies, with venomous or non-venomous types causing localized pain and edema, along with generalized symptoms like dyspnea, ptosis, mental alteration, and tachycardia.According to VideshS R (1999),disinfectants like alcohols, hydrogen peroxide, phenols, and bleach eliminate microorganisms from surfaces but can be toxic to humans due to their chemical composition, with severity linked to concentration and exposure duration.Some researchers provide information about a substance when prescribed, over-the-counter, legal, or illicit, consuming too much is known as a drug overdose. Both intentional and unintentional drug overdoses are possible,EllisM E (2020).
According to SabourJ (2022),Poisoning symptoms vary based on type, amount, and exposure method, such as dizziness, vomiting, diarrhea, rash, mouth sores, breathing issues, headache, shivering, and seizures.DeshmukhC D and Pawer A (2020), and Smollin C (2019) stated thatfor diagnosis, physical examination and clinical laboratory tests, including vital signs like blood pressure, pulse rate, temperature, and consciousness level, are essential. Tests such as serum osmolality, electrolytes, glucose, and toxicological screening help determine the diagnosis and guide treatment decisions.

Chandran J and KrishnaB (2019)in their article described that Initial poisoning management focuses on acute stabilization and supportive treatment until the appropriate drug is identified, involving care to prevent absorption, use of antidotes as needed, and enhancement of elimination procedures. Priority is resuscitation (ABC: airway, breathing, circulation) for unstable patients, followed by a risk assessment for intervention based on examination and history. Supportive care addresses hemodynamics, circulation, respiratory support, and airway control, while decontamination involves methods like activated charcoal, gastric lavage, and emesis induction. Elimination methods, including urine alkalization and activated charcoal, may be utilized, alongside specialized therapy or antidotes for specific cases.

Clinical pharmacists in emergency medicine play vital roles by leveraging their diverse expertise to enhance drug safety, develop alternative medication regimens when necessary, and optimize patient care, both in the hospital and post-discharge. They are integral members of the healthcare system, deserving recognition and integration as cited in RoutsoliasJ C et al., (2020).

Materials and methods:

Thestudywas conducted at the Casualty and General Medicine department of Maharaja Institute of Medical Sciences (MIMS) hospital located in Vizianagaram district run by the Sri

Rama educational trust, whichwas a tertiary care teaching hospital that provides complete patient care. Thestudywas a prospective observational study with 123 poisoned patients.A PowerPoint presentation was presented before the institutional review board of the hospital regarding the approval for the study. The study was initiated after obtaining approvals from the institutional ethics committee of Maharaja Institute of Medical Sciences. The subjects were recruited in the study after obtaining written consent through an informed consent form (ICF).

In recognition of six months, the current study was being undertaken the research samples are as follows

- Inclusion criteria:
  Patients of either gender admitted in the hospital in the department of casualty and general medicine with any kind of poisoning and patients who are willing to participate in the study.
- Exclusion criteria:
  Patients who are not willing to participate in the study and the missing data.

Data collection:

To collect data for the study, patients who satisfied the inclusion criteria and gave their informed consent were directly recruited.

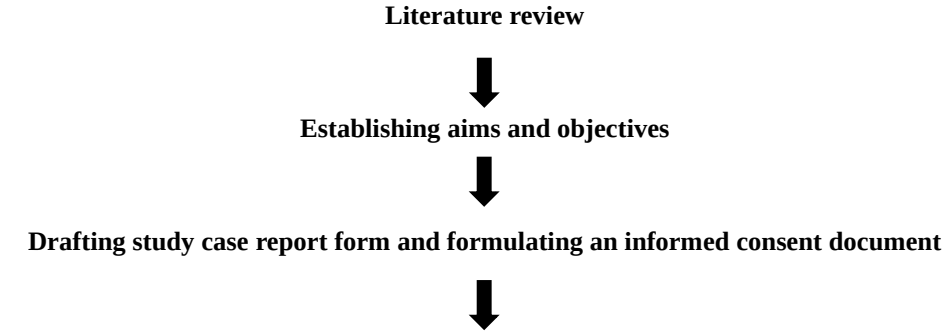
Structured questionnaires and in-person conversations with poisoned victims were used to gather the data.

Tools used in the study:

A. **Case report form:** We have created a structured survey centered on the diverse factors impacting patients before, during, and after poisoning incidents while they are hospitalized. The questionnaire covers demographic details, past medical and medication histories, social backgrounds, psychiatric comorbidities, reasons for psychiatric illness, severity of poisoning, treatment outcomes, and financial status.

Data analysis:

A descriptive analysis was performed on the collected data, which involved computing the mean and standard deviation for quantitative variables. The data was entered into an Excel spreadsheet and the parametric tests for qualitative variables, like the student t-test and power of study, were used. Pie charts, graphs, and percentages were used to display the results. The statistical software SPSS version 29 was used for all analyses.



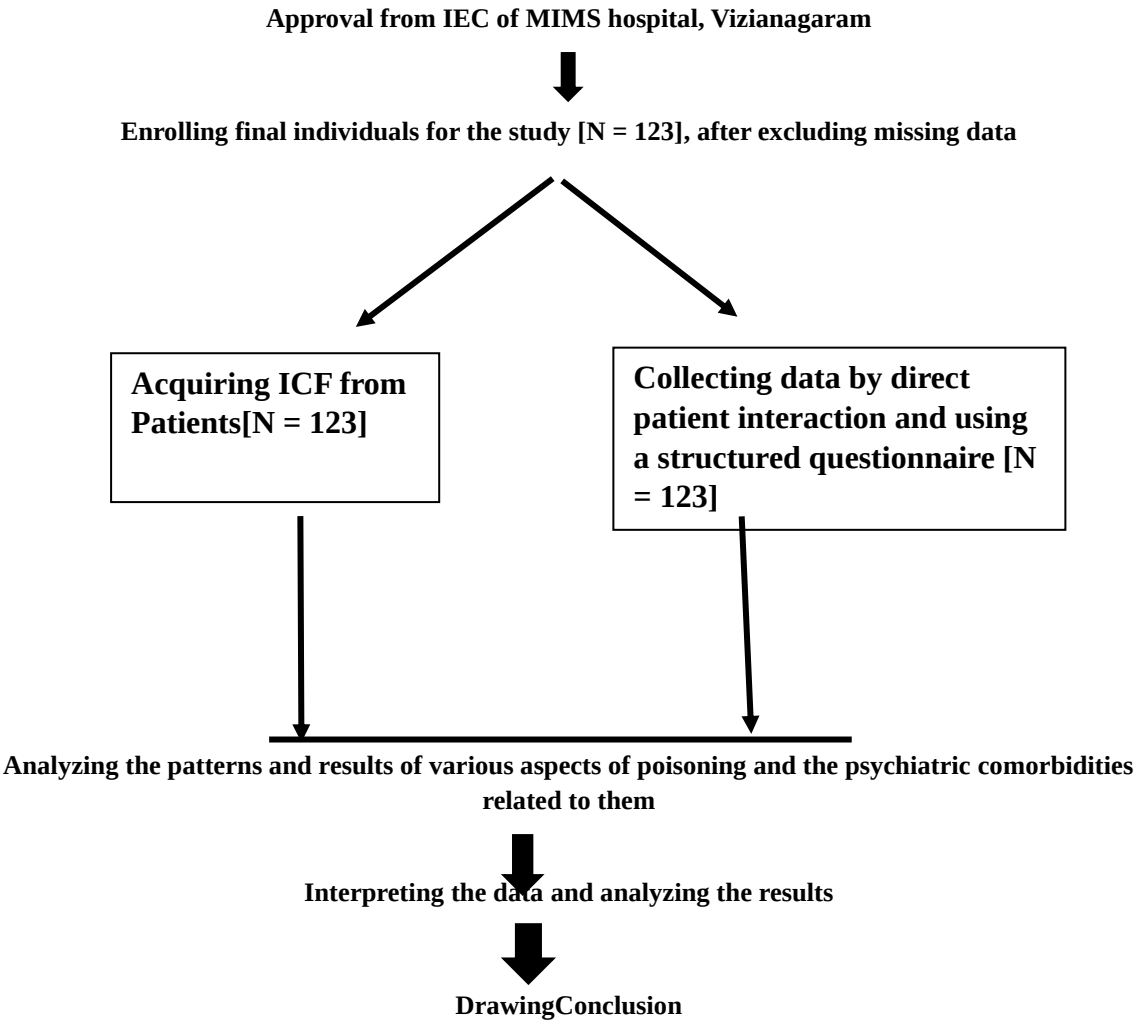


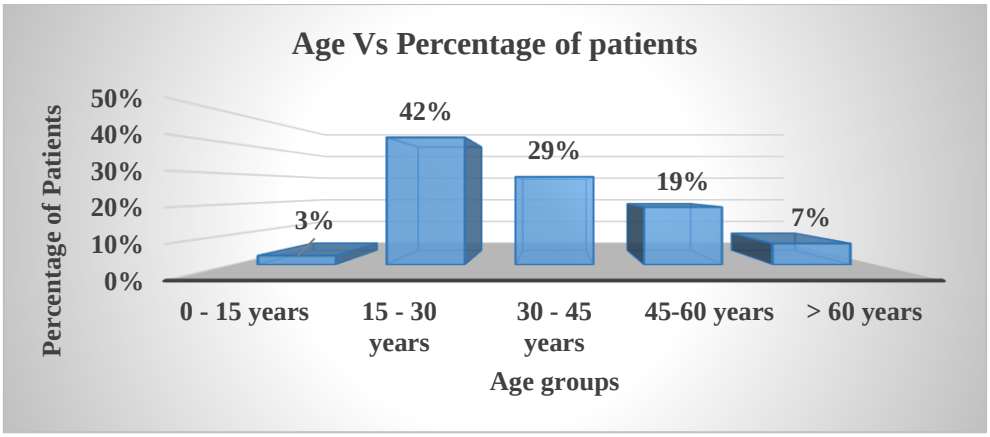
Figure no 1: Illustration outlining the study plan's framework

5. RESULTS:

In the study, 123 poisoned patients were analyzed, among them 40(32.5%) were attributed to Pesticide poisoning. In snake poisoning, among 46 cases, 28(22.4%) were reported as hemotoxic, 11(8.9%) as neurotoxic, and 7(5.6%) as unknown.Disinfectant poisoning was observed in 12(9.7%) patients, Drug poisoning in 15(12.1%) patients, and other poisoning cases in 10(8.1%) patients. There were no reported cases of food poisoning or substance abuse. Psychiatric comorbidities were notably prevalent in 60% of deliberate self-poisoning cases compared to 40% in accidental poisoning instances.

AGE:

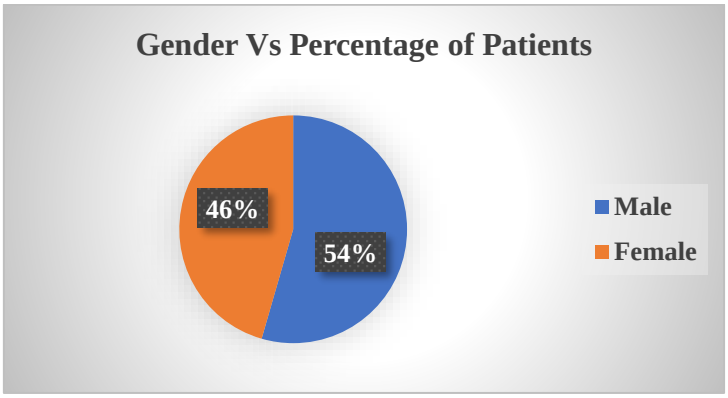
The age groups included in our study were from 0-60 years.The highest percentage of patients who were reported between the ages of 15-30 was 42%, while the lowest number of patients reported between the ages of 0-5 was 3%.



Graph 1: The graph illustrates the Age categories and the corresponding Percentage of patients

GENDER:

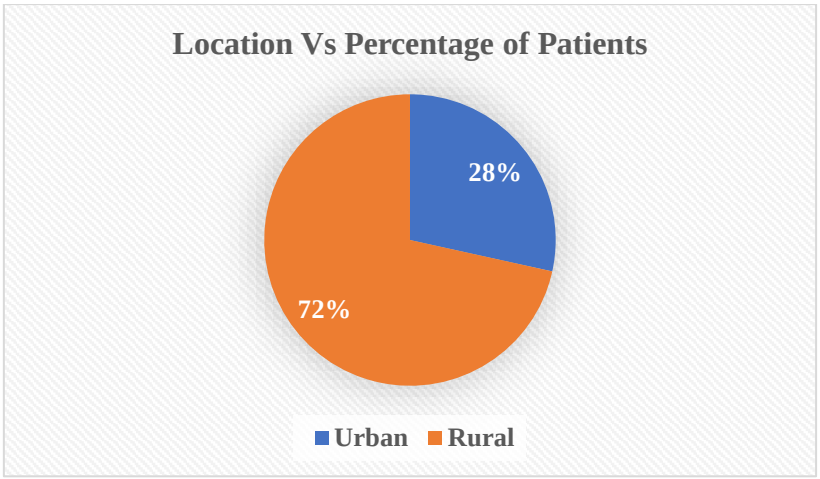
The present study included 123 patients, with males accounting for 54% and females with 46%.



Graph 2: The graph depicts the distribution of genders

LOCATION:

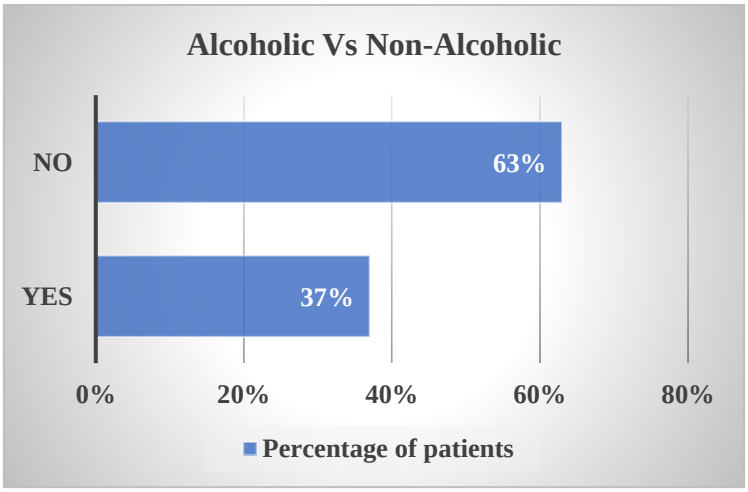
The present study included 123patients,72% of individuals were admitted from rural areas and 28% from urban areas.



Graph 3: The chart illustrates the Location of urban vs rural patients

ALCOHOL:

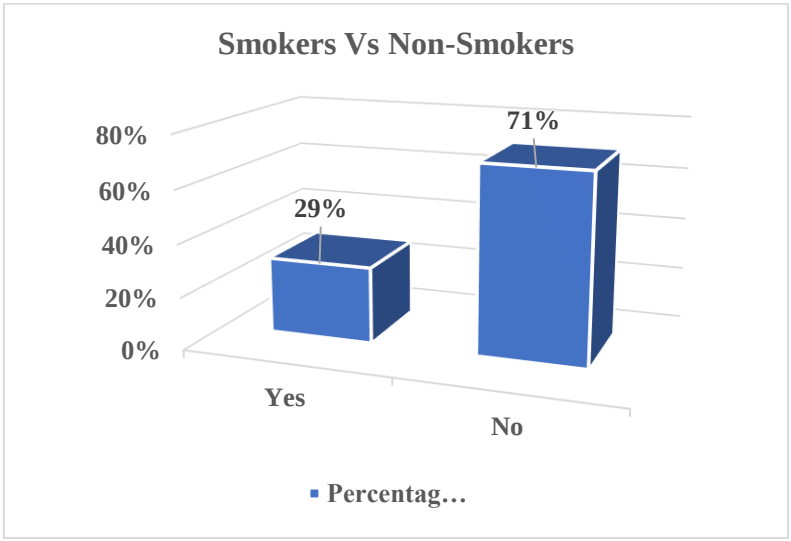
The present study included 123 patients, 63% of the individuals were non-alcoholic and 37% were alcoholic.



Graph 4: The chart illustrates whether individuals are consumers of alcoholic or non-alcoholic beverages.

SMOKER:

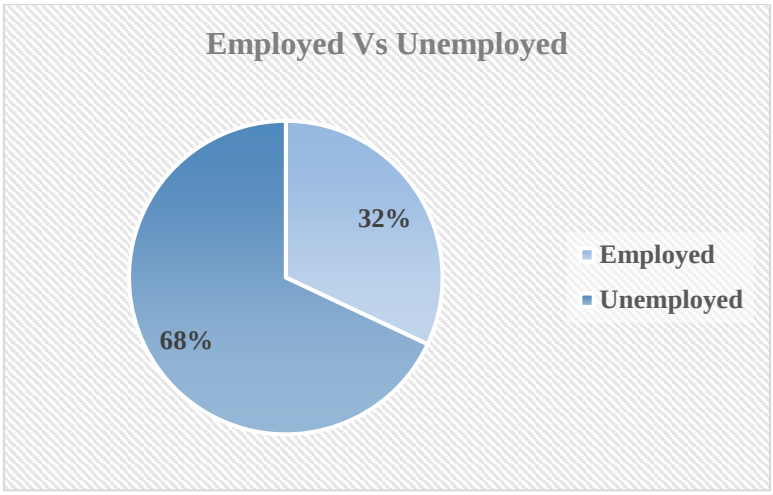
The present study included123 patients,71% of patients were found to be nonsmokers, while 29% were smokers.



Graph 5: The graph depicts individuals categorized as smokers or non-smokers.

EMPLOYMENT:

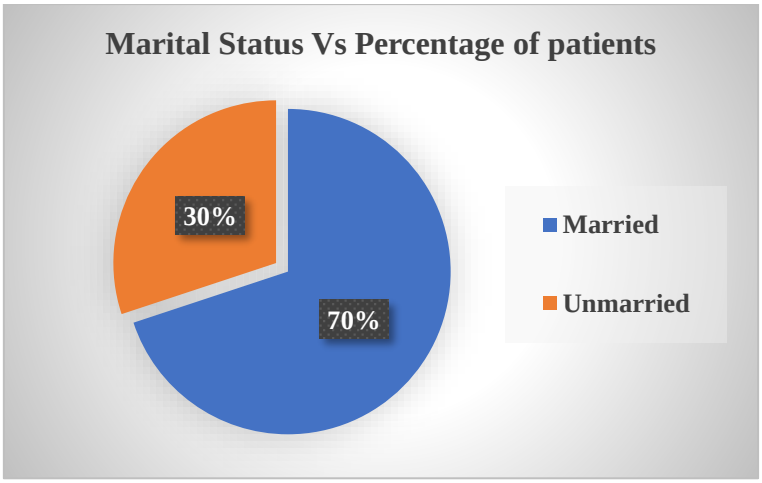
The present study included123 patients, unemployed patients were 68%, whereas 32% of patients were employed.



Graph 6: The graph illustrates the occupational status

MARITAL STATUS:

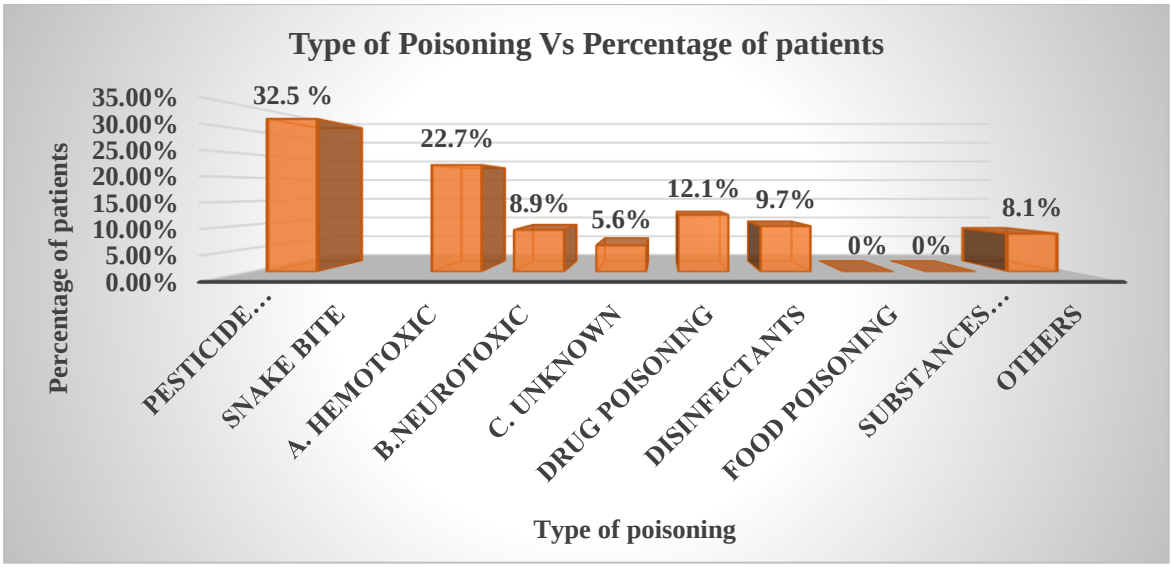
The present study included123 patients, 70% of patients were Married and 30% of patients were unmarried.



Graph 7: The graph depicts the marital status of individuals; Marital status vs the Percentage of Patients.

TYPES OF POISONING:

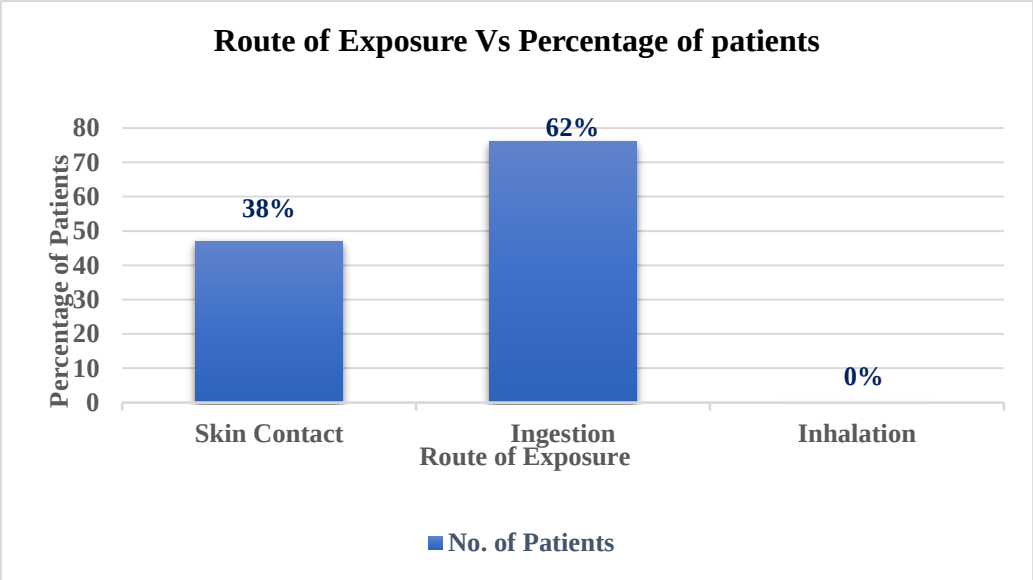
The present study included 123 poisoned patients, the most substantial instances were attributable to Pesticide poisoning with 32.5%, There were no reported cases of food poisoning or substance abuse.



Graph 8: Type of Poisoning vs Percentage of Patients

ROUTE OF EXPOSURE:

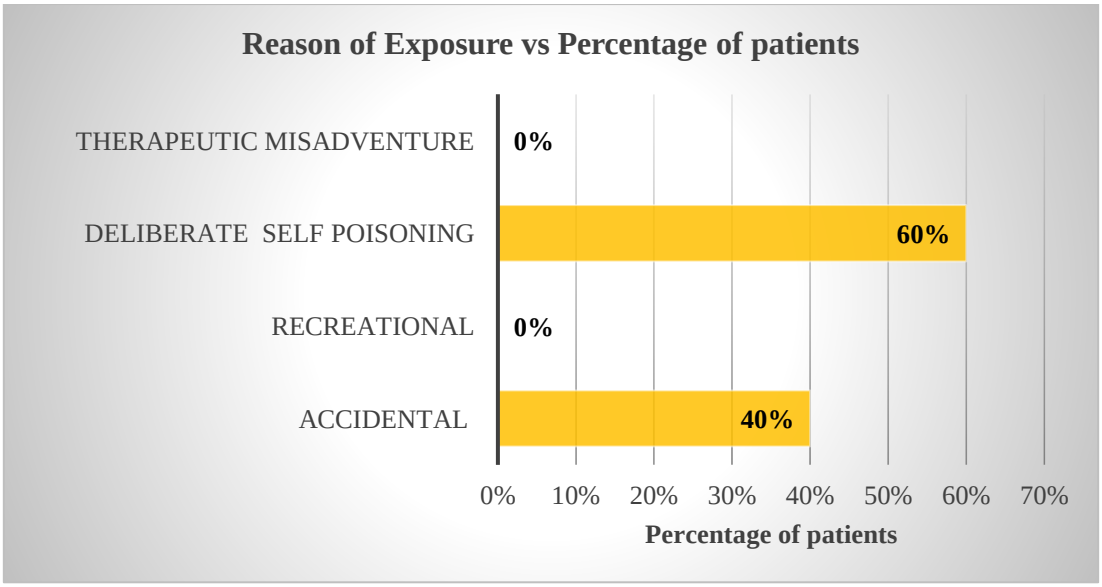
It's interesting to note that in the mentioned 123 cases,62% of patients were poisoned through ingesting, while no patients were poisoned through inhalation.



Graph 9: Pie chart representing Route of Exposure and Percentage of Patients

REASON OF EXPOSURE:

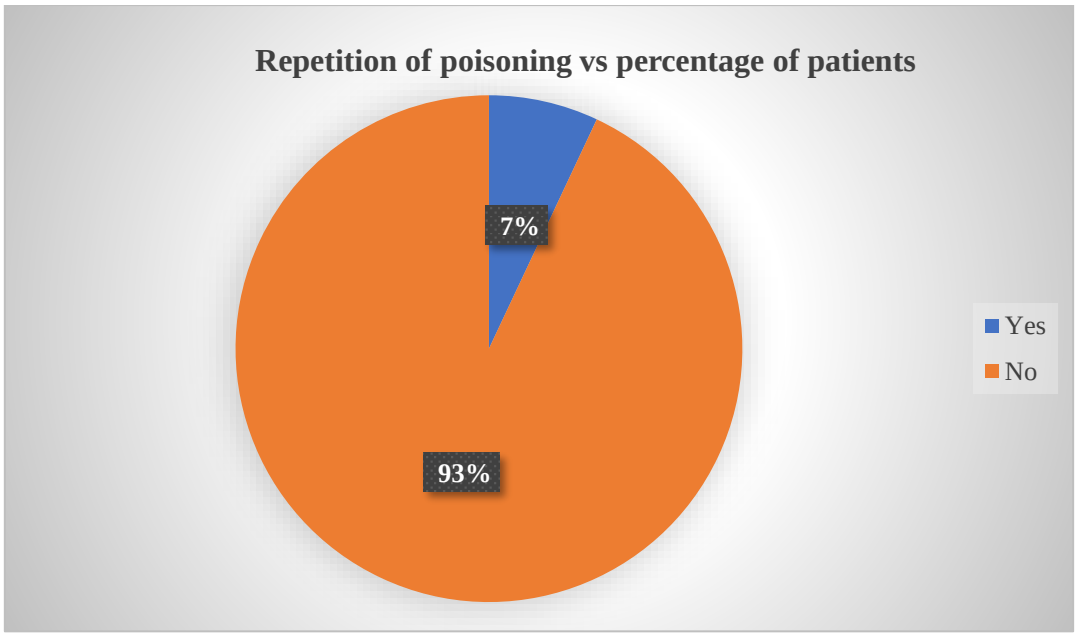
Among the recorded cases, deliberate self-poisoning accounted for 60%, whereas no cases were reported for therapeutic misadventure and recreational.



Graph 10: Reason for exposure vs Percentage of patients

REPETITION OF POISONING:

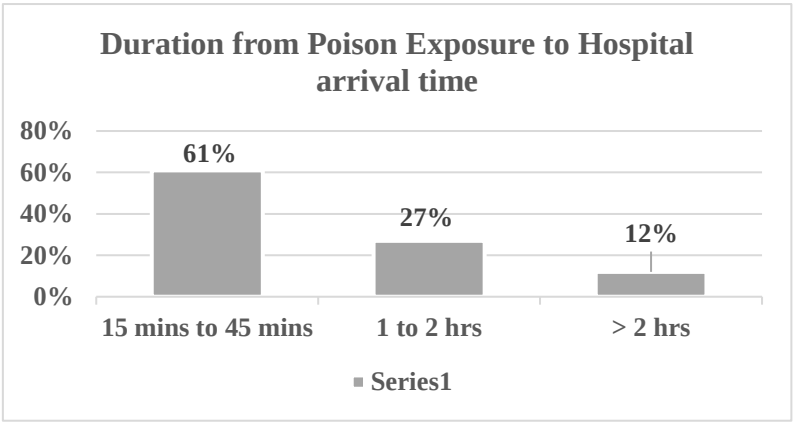
It appears that the majority of poisoning cases in the study were not repeated with 97%. However, there were 3% instances where poisoning was repeated in a total of 123 cases.



Graph 11: Graph representing the repetition of poisoning and Percentage of patients

DURATION FROM POISON EXPOSURE TO HOSPITAL ARRIVAL TIME:

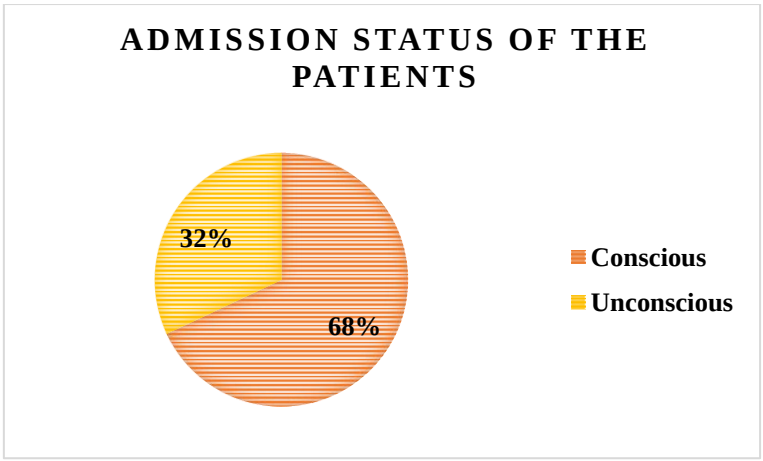
A substantial number 61% patients reached within 15 minutes to 45 minutes. Notably, 12% patients took more than 2 hours to reach the hospital.



Graph 12: Duration from poison Exposure to hospital arrival time vs Percentage of patients

ADMISSIONS STATUS OF THE PATIENTS:

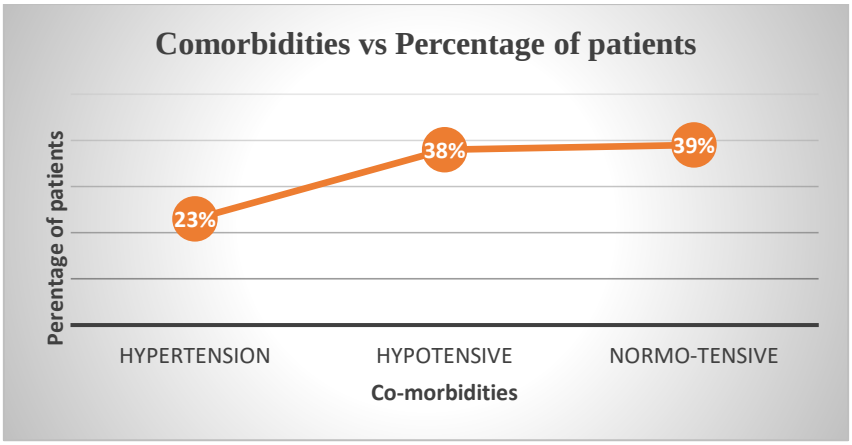
It's notable that in our study, 68% of patients were conscious, while 32% of patients were unconscious upon admission to the hospital.



Graph 13: Graph representing the Status of the patients at the time of Admission

CO-MORBIDITIES:

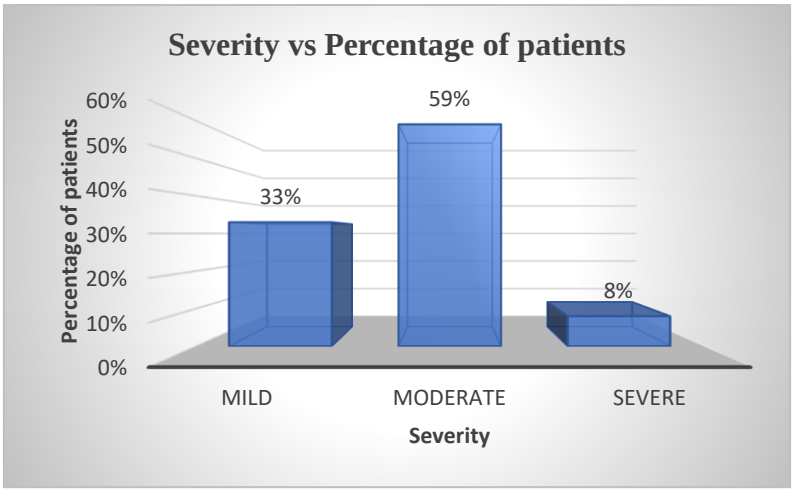
The Present study included 123 patients, 39% had normal tension as co-morbidities, whereas 38% experienced hypotension,



Graph 14: The graph illustrates Comorbidities and percentage patients

SEVERITY:

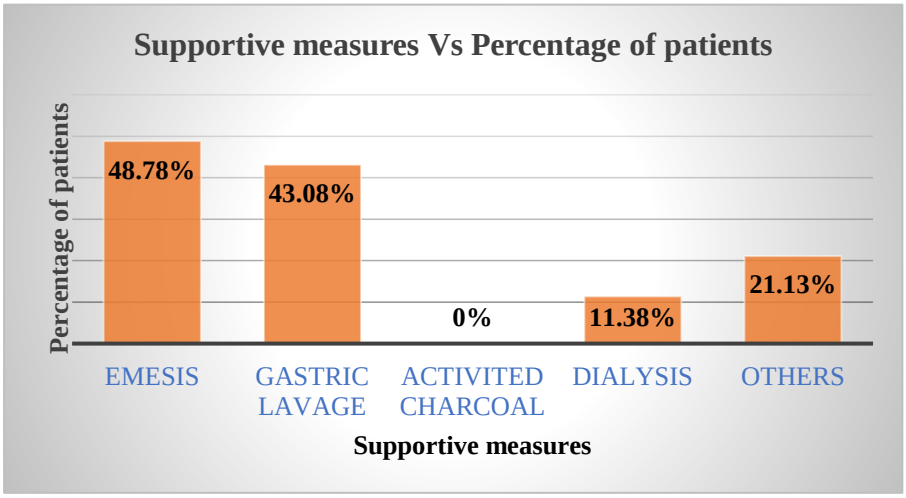
Among the 123 patients with poisoning conditions, 59% were patients with moderate severity, whereas 8% patients were with severe conditions.



Graph 15: The graph depicts the severity levels of patients experiencing poisoning conditions.

SUPPORTIVE MEASURES:

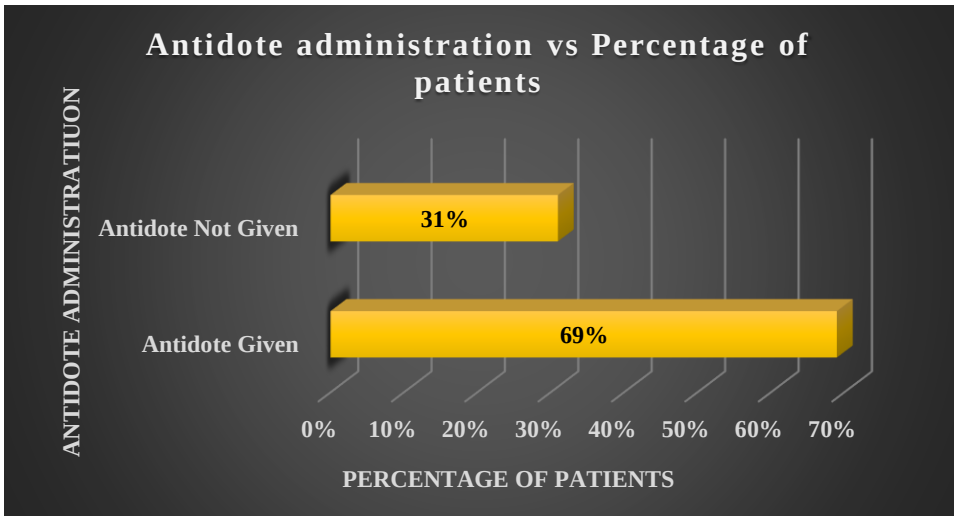
Among 123 patients with poisoning, supportive measures included Emesis was undergone in 48.78% patients while Activated charcoal was not done for any of them.



Graph 16: Graph illustrating the supportive measures for poisoning and Percentageof patients

ANTIDOTE ADMINISTRATION:

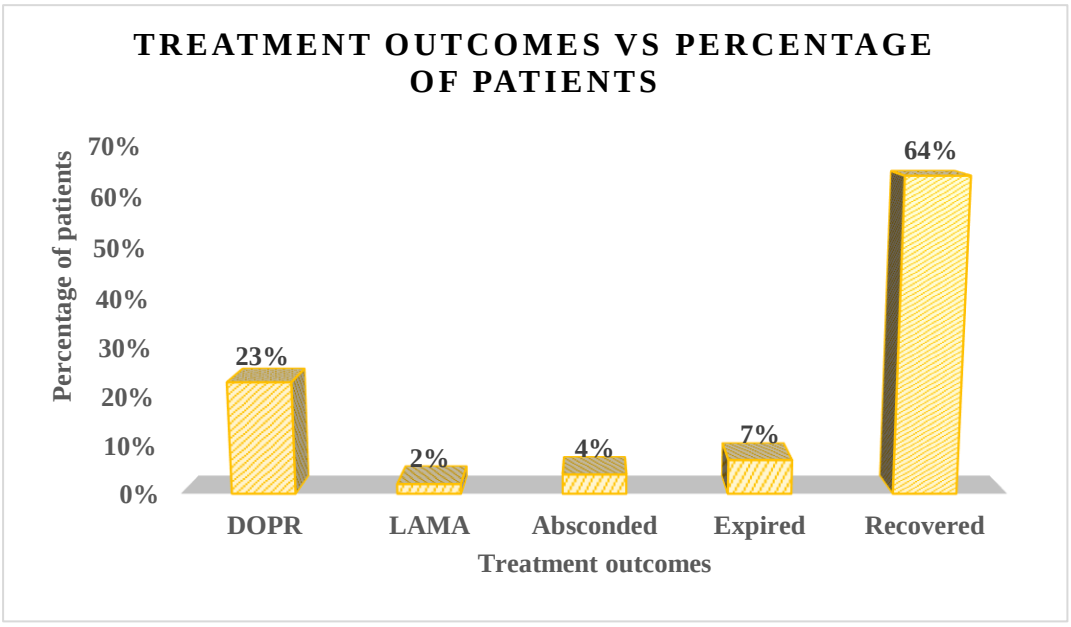
Among 123 patients, the administration of pharmacological therapy for poisoning includes the provision or absence of antidotes is indicated while 69% patients received an antidote for their poisoning condition, 31%patients did not given antidote for their poisoning condition.



Graph 17: The graph depicts the administration of antidotes and non-administration of antidotes and the corresponding percentageof patients.

TREATMENT OF OUTCOMES:

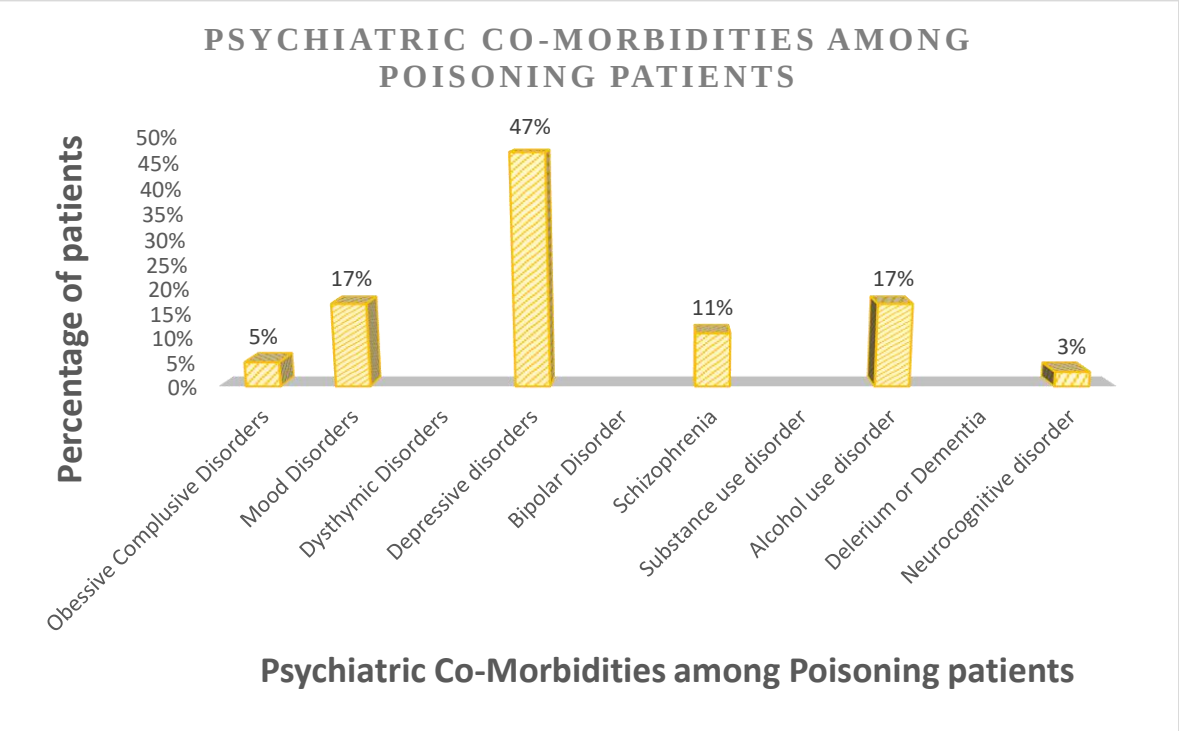
In treatment outcomes among 123 patients, 62% of patients were documented as recovered whereas 2% were documented as Left against medical advice



Graph 18: The graph visually depicts the treatment outcomes and the associated patient Percentage.

PSYCHIATRIC COMORBIDITIES:

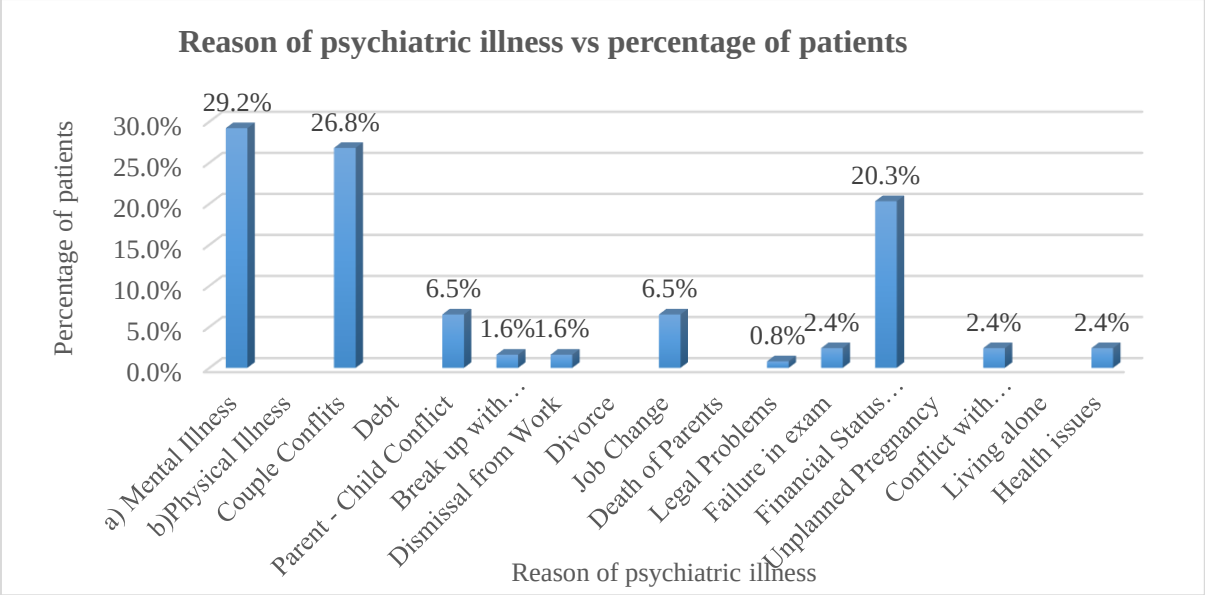
Among the 123 patients, deliberate self-poisoning cases with 74 patients out of which psychiatric comorbidities were documented for 36 patients. Depressive Disorder was more reported at 47%, while no instances were recorded with Dysthymic Disorders, Bipolar Disorder, Substance Use Disorder, Delirium, or Dementia.



Graph 19: The graph visually presents the psychiatric comorbidities and the corresponding Percentage of patients.

REASON OF PSYCHIATRIC ILLNESS:

The present study included 123 patients,Mental illness was reported among 29.2% of patients.Couple conflicts were more frequently stated as the reason for illness with 26.8%, while reasons for illness such as debt, divorce, death of parents, unwanted pregnancy, and living alone were not reported.



Graph 20: The graph virtually depicts the factors contributing to psychiatric illness among subjects.

S.NO	TYPE OF POISONING	FREQUENCY	%	SEVERITY						P-value
				MILD		MODERATE		SEVERE		
				No. of cases	%	No. of cases	%	No. of cases	%	
1	Pesticide Poisoning	40	32.52	16	13	19	15.44	5	4.06	0.001241
2	a. Snake Bite-Hemotoxic	28	22.76	9	7.31	16	13	3	2.43	
	b. Snake Bite-Neurotoxic	11	8.94	6	4.87	5	4.06	0	0	
	c. Snake Bite-Unknown	7	5.69	3	2.43	3	2.43	1	0.81	
3	Drug Poisoning	15	12.19	4	3.25	10	8.13	1	0.81	
4	Disinfectants	12	9.75	0	0	12	9.75	0	0	
5	Food Poisoning	0	0	0	0	0	0	0	0	
6	Substances Abuse	0	0	0	0	0	0	0	0	
7	Others	10	8.13	2	1.62	8	6.5	0	0	

Table 1: Comparative table for different Types of poisoning based on their Severity

According to Table 1, The present study includes 123 poisoning cases, among which 32.5% were attributed to pesticide poisoning. Snake poisoning has been reported with 22.7% hemotoxic, 8.9% neurotoxic, and 5.6% unknown. 9.7% of patients reported with disinfectant

poisoning, 12.1% reported with drug poisoning, and other poisoning cases were reported among 8% patients. There were no instances of food poisoning or substance abuse.

Patients who have been poisoned by pesticides are more likely to experience greater severity compared to those poisoned by other substances, though statistical data indicates a correlation between the type of poisoning and its severity.

Table 2:P-value table for Type of Poisoning-Severity

ANOVA							
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***	***Significant?***
Rows	447.3333333	8	55.91666667	5.304347826	0.002267	2.591096	Yes
Columns	220.6666667	2	110.3333333	10.46640316	0.001241	3.633723	Yes

S.NO	**AGE**	**FREQUENCY**	**%**	**SEVERITY**						**P-value**
				MILD		**MODERATE**		**SEVERE**		
				No. of cases	**%**	**No. of cases**	**%**	**No. of cases**	**%**	
1	0-15 years	4	3.25	1	0.81	3	2.43	0	0	0.048571619
2	15-30 years	52	42.27	27	21.95	24	19.51	1	0.81	
3	30-45 years	36	29.26	7	5.69	24	19.51	5	4.06	
4	45-60 years	23	18.69	4	3.25	16	13	3	2.43	
5	> 60 years	8	6.5	1	0.81	6	4.87	1	0.81	

Table 3: Comparative table for Age groups-Severity

The present study includes age groups from 0 to > 60 years. Patients aged 0-15 years accounted for 3%, followed by those aged 15-30 years with 42%, 30-45 years with 29%, 45-60 years with 19%, and above 60 years with 7%.

The above Statistical data indicates that poisoning severity was more prevalent among individuals aged 15 to 30 compared to other age brackets, suggesting a correlation between age group and severity.

Table 4 : P-value table for Age group - Severity

Table 5: Comparative table for the Duration from poison exposure to hospital arrival time and Severity

S.NO	DURATION FROM POISON EXPOSURE TO HOSPITAL ARRIVAL TIME	FREQUENCY	%	SEVERITY						P-value
				MILD		MODERATE		SEVERE		
				No. of cases	%	No. of cases	%	No. of cases	%	
1	15 Min-45Min	75	60.97	32	26.0	38	30.89	5	4.06	0.093685
2	1-2 hours	33	26.82	4	3.25	25	20.32	4	3.25	
3	>2 hours	15	12.19	4	3.25	10	8.13	1	0.81	

The data shows varying arrival times to the hospital after poison exposure.A substantial amount of 61% of patients came within 15 to 45 minutes, whereas 27% arrived within 1-2 hours. Notably, 12% of patients travelled more than two hours to reach the hospital.

The statistical data above suggests that there is no significant relationship between the severity of the poisoning and the duration from the time of poison exposure to the hospital arrival.

Table 6 : P-value table for Duration from poison Exposure to Hospital Arrival Time -Severity

ANOVA							
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***	***Significant?***
Rows	632	2	316	4.328767	0.099867	6.944272	No
Columns	662	2	331	4.534247	0.093685	6.944272	No

Table 7: Comparative table for Comorbidities and Severity

S.NO	COMORBIDITIES	FREQUENCY	%	SEVERITY						P-value
				MILD		MODERATE		SEVERE		
				No. of case	%	No. of case	%	No. of case	%	

				s		**s**		**s**		
1	Hypertensive	28	22.76	3	2.43	24	19.51	1	0.81	0.047841
2	Hypotensive	47	38.21	13	10.56	29	23.57	5	4.06	
3	Normotensive	48	39.02	24	19.51	20	16.26	4	3.25	

Among the collected cases , 23% patients had hypertension, 38% had hypotension, and 39% had normal tension as co-morbidities. Understanding the distribution of these co-morbidities can contribute to a comprehensive analysis of the cases.

Based on the table and the p-value, patients with hypotension experienced greater severity of poisoning, indicating a significant correlation between comorbidities and the severity of the condition.

ANOVA							
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***	***Significant ?***
Rows	84.66667	2	42.3333333	0.913669	0.471172	6.944272	No
Columns	662	2	331	7.143885	0.047841	6.944272	Yes

Table 8 : P-value table for Comorbidities-Severity

DISCUSSION

Goswami O et al.,(2021) in their study show how incidents are distributed throughout age groups up to 60 years old. The majority of cases—52 (42%) were recorded in the 15–30-year-old age range, while the fewest number 4 (3%) were reported in the 0-15-year-old age range. The underlying cause of this was accessibility to various substances, lack of awareness about the risks, and factors such as increased independence, and peer influence were more prevalent. Moreover, challenges related to stress, relationships, and societal pressures may contribute to behaviors that increase the risk of poisoning incidents in this demographic. This is in contrast to research by Oli Goswami et al. that found patients between the ages of 21 and 30 had a higher risk of poisoning.

The study included 123 patients, with males (54%) being more susceptible to poisoning than females (46%). This is consistent with the findings of Dr. Sathvik G. et al., (2021) research, which show that the prevalence of men is higher than that of women.

Ali I et al.,(2017) found thatof the overall 123 patients, 72% were admitted from rural areas, and 28% were from urban areas. The primary cause of poisoning among rural residents stemmed from a lack of knowledge about potential dangers, particularly prevalent among

individuals living in agricultural regions. Among those admitted, 37% were identified to be alcohol consumers, whereas 63% were not impacted by alcohol. Moreover, of the patients, 29% had a habit of smoking, while 71% did not smoke.

Out of 123 patients, 86(70%) patients were Married and 37(30%) patients were unmarried. This is similar to the work done by Irteqa Ali et al.,(2017) concluded that the Consumption of poison was found higher in married persons than in unmarried.

GetieA. and Belayneh Y M(2020) and Aroor A R et al.,(2019) stated that within the 123 instances of poisoning that were examined, the vast majority of the patients experienced snake bites, which accounted for 37.39% of the cases; the next most prevalent kind of poisoning was pesticide poisoning, recording 32.52% of the cases; the least prevalent kind of poisoning, comprised of diesel, paint thinner, rodenticides, etc., accounting for 8.13% of the cases; no cases of food poisoning or substance abuse were reported. These outcomes contrast with the findings of Aroor A R et al., (2019) which found that drug poisoning was the most prevalent kind of poisoning, followed by pesticide poisoning, and also with Getie Aand Belayneh Y M(2020) which reported that food poisoning contributes to 15.8% of cases.

Among the total of 123 patients, 62% were poisoned by ingestion, and 38% were poisoned by skin contact. It's noteworthy that no cases of inhalation poisoning were reported. The findings from the study of TangiisuranB et al., (2019) which also emphasized ingestion as the primary route of exposure in cases of intentional self-poisoning, are aligned with the present study.

GetieA and Belayneh Y M (2020)reported that at 60%, intentional self-poisoning was more common than unintentional poisoning, which occurred in 40% of cases.Intentional poisonings may be more common than unintentional ones due to various factors, including self-harm, suicide attempts, Mental health issues, emotional distress, and interpersonal conflicts that can contribute to intentional poisoning incidents. The findings of the present study are aligned with the findings obtained by Abebe Getie et al., who found that deliberately poisoning victims accounted for 64.2% of all poisonings reported.

Comparing repeated poisonings to non-recurring poisonings, the frequency of repeated poisonings was low. On the contrary, Fridtjof Heyerdahl et al.'s (2018) study, which revealed a high rate of recurrent poisonings, contradicts this.

Different people arrive at hospitals after consuming poison, according to the data. 61% of the significant majority reached within 15 to 45 minutes. It is noteworthy that 12%of patients required more than 2 hours to arrive at the hospital, underscoring the significance of assessing the impact of delays in treatment on patient outcomes as cited in Ali I et al.,(2017). The present study is comparable to that of Sawlani KK et al., who concluded that early medical intervention is vital for reducing mortality.

A significant finding from thestudy indicated that 68% of patients were conscious when they were admitted to the hospital, whereas 32% were unconscious.Upon admission to the hospital, the majority of poisoning patients were conscious, likely due to the quantity of poison ingested, the severity of their symptoms, and their tolerance levels. The presentstudy

is similar to the findings by Aher A L and Shingade P U(2023),in that the majority of patients were conscious and the remaining ones were unconscious.

Upon analysis of the distribution of co-morbidities, it was observed that there were 28(23%) cases exhibiting hypertension, 47(38%) displaying hypotension, and 48(39%) presenting normal tension. This data serves as a fundamental basis for a comprehensive examination of the gathered cases.

Based on the research, 59% of the 123 patients had moderately severe conditions, 33% of patients had mild severity and only 8% had more severe conditions. Contrary to this, a higher prevalence of severity cases was noted in the research carried out by Deng X et al., (2023), compared to mild cases.

WaktolaL G et al., (2023)provided supportive measures for 123 poisoning patients including emesis for 60 (48.78%), gastric lavage for 53 (43.08%), activated charcoal for none, dialysis for 14 (11.38%), and other methods for 26 (21.13%) patients.

Among the 123 patients treated with pharmacological therapy for poisoning, 69% (85 patients) were given an antidote, while 31% (38 patients) did not require an antidote for their respective poisoning conditions.Antidotes are designed to be specific to certain toxins, highlighting the importance of accurate diagnosis to ensure the right antidote is administered. antidotes play a pivotal role in averting life-threatening consequences and facilitating the recovery of individuals affected by poisoning.

In the study, most of the patients (64%) recovered, whereas a few patients (2%) decided to leave against medical advice. The study in which 6.44% chose to Leave against medical advice and 82.40% were discharged as cited in Waktola L G et al., (2023).

Thepresent study showed a greater occurrence of depressive disorders (47%) as accompanying mental health issues among patients affected by poisoning. This could be attributed to factors like the traumatic experience, physical and psychological effects, as well as social and emotional stress. The present study differsfrom Kar H'set al., (2023) research, which highlighted anxiety disorders as being more prevalent among this particular group.

The present study indicates that mental illness (29.2%), couple conflicts (26.8%), and changes in financial status (20.3%) were the primary consequences of intentional poisoning. This is similar to a study that found, mental disorders, and marital conflict, were the foremost causes of intentional poisoning as cited in Getie A andBelayneh Y M (2020).

The relationship between the type of poisoning, age, hypotension, and hypertension and their impact on the severity of poisoning patients can be complex:

- The severity of pesticide poisoning varies compared to other substances due to factors such as accessibility, toxicity levels, exposure pathways, lack of awareness and education, delayed symptoms environmental factors. Pesticides are more commonly used in certain areas, leading to higher rates of poisoning compared to other substances. Limited access to antidotes or specialized medical care may also contribute to increased severity.

- Age can influence the severity of poisoning due to physiological differences and variations in metabolism among different age groups. Children and the elderly are often more vulnerable to the effects of poisoning due to factors such as immature or compromised organ function, respectively.
- Both hypotension (low blood pressure) and hypertension (high blood pressure) can complicate the management of poisoning cases. Severe poisoning can lead to shock, which may result in hypotension due to decreased cardiac output and peripheral vascular resistance. Hypotension can worsen tissue perfusion and contribute to organ dysfunction, increasing the severity of poisoning.
- Overall, the severity of poisoning in patients is influenced by a combination of factors including the type of poison, age of the individual, and the presence of comorbidities. Prompt identification, appropriate medical management, and supportive care are essential in mitigating the severity and improving outcomes in poisoning cases.

Limitations of study:

The present research is constrained by certain limitations. Firstly, the study's sample size was restricted due to time constraints. Additionally, only specific poisoning conditions were considered in this investigation.

Conclusion:

Poisoning is the condition that occurs when a person or organism ingests, inhales, or absorbs a substance that can cause harm, illness, or death. Poisoning can result from various substances, including chemicals, medications, plants, foods, and venom from animals. Unintentional poisoning incidents were prevalent in farmers bitten by snakes, while deliberate self-poisoning cases were more frequent among individuals with pesticide exposure, particularly in rural areas where pesticides are easily accessible due to their affordability and the presence of certain psychiatric disorders. The symptoms of poisoning vary in severity depending on the type and quantity of the toxin consumed. Many poisoned individuals recovered after receiving appropriate antidotes and undergoing supportive interventions such as gastric lavage, inducing vomiting, dialysis, and mechanical ventilation as needed. Symptoms of poisoning can range from mild to severe, depending on the substance involved and the amount ingested. Treatment typically involves removing the poison from the body, providing supportive care, and administering antidotes if available. Snake-poisoning cases were the most frequent. Deliberate self-poisoning incidents outnumbered accidental cases. Patients who deliberately poisoned themselves often had psychiatric comorbidities, mainly depressive disorders, linked to couple conflicts and changes in financial status.

Pesticide-poisoning patients experience higher severity compared to other substances, with a correlation between the type of poisoning and its severity.The poisoning severity was more prevalent among individuals aged 15 to 30 compared to other age groups, suggesting a correlation between age group and severity. The statistics reveals that there is no significant relationship between the severity of the poisoning and the duration from poison exposure to the hospital arrival and there exists a significant correlation between comorbidities and the severity of the condition.

Role of clinical pharmacist:

- Recognizing individuals susceptible to self-poisoning.
- Extracting a patient's medication history from their medical records.
- Pharmacists play a distinct role in detecting poison.
- Upholding patient confidentiality rights is imperative.
- Dispensing poison prevention literature and promoting the poison control center hotline can enhance awareness.
- Educating parents, children, and patients about food poisoning.
- Tracking therapeutic progress effectively.

POISON HELPLINE NO.:

Immediately dial the Poison Help line at 1-800-222-1222 to reach your local poison center, where a specialist will guide the necessary steps to take. If needed, the poison center can remain on the line with you while you seek additional assistance.

Funding:

There was no specific funding for this study.

Acknowledgements:

We acknowledge the continuous support of Dr.M.B.V.Raju (Principal of AIPS) for completing the research.

Conflicts of interest:

The authors declared no conflicts of interest.

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