

**POISONING MANAGEMENT IN TERTIARY CARE HOSPITAL**

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INTRODUCTION

Poisons are material that causes disorder in organisms, generally by chemical response or other activity on the molecular criterion, when an organism attracts an adequate quantity.

The most common poisons in children:

- Cosmetics and personal care products
- Cleaning substances and laundry products
- Foreign bodies such as toys, coins, thermometers

- Antihistamines
- Pesticides
- Plants
- Antimicrobials

The most common poisons in adults:

- Pain medicine
- Sedatives, hypnotics, antipsychotics
- Antidepressants
- Cleaning substances
- Pesticides
- Bites (ticks, spiders, bees, snakes)

Causes and symptoms

The poison effects are as various and few mechanism is understood. Some poisons interpose with the metabolism and some others destroy the liver or kidneys, like heavy metals and few pain relief medicines, like paracetamol and NSAID drugs (e.g.; Ibuprofen). A poison can dispirit the central nervous system, giving coma and eventual respiratory and circulatory

failure. Poisons in this class consist anesthetics (ether, chloroform), opiates (morphine, codeine) and barbiturates. Some poisons instantly affect the respiratory and circulatory system. Some poisons interfere with the electrochemical impulses which going between neurons in the nervous system. Some other groups are including cocaine, ergot, strychnine and some snake venoms, causes fatal seizures. Intensity of symptoms can be start by headache and nausea to convulsions and death. The poison types, the amount and time of exposure, the age and health of the victim are all factors which determine the severity of symptoms and the chances for recovery.

Diagnosis

Poisoning is doubtful if the patient has changes in behavior and signs or symptoms which previously described. Patient may have hallucinations or other psychiatric symptoms cause of hallucinogenic plant. Finding of empty container or getting any information or finding empty container can be helpful to understand the poisoning reason. Some alkalis and acids leave burns on the mouth. Petroleum, such as kerosene or lighter fluid, has a distinctive odor on the breath. Sometimes testing of the vomit may be useful to determine the poison composition. Also blood and urine sampling may need to determine the patient metabolic condition.

Objective of study

Primary objective

- Study The Assessment of Poisoning Management in Tertiary Care Teaching hospital.

Secondary objectives

- To explain basic ideas in toxicology clearly can figure out the danger and risks affiliated with chemicals.
- To assess the primary assessment and revival of poisoned patients.
- General management of patients with substance abuse including both intoxication and withdrawal states.
- Demonstrating effective, empathetic communication with patients and their families.
- Performing an initial evaluation of patients with a wide variety of differentiated psychological and social problems.
- Organizational skills and efficiency in maintaining patient.

Understand the pharmacological basis for the use of specific antidotes.

METHODOLOGY

Study site

Study was conducted in a tertiary care hospital.

STUDY DESIGN

Prospective observational study.

DURATION OF STUDY

The study was conducted for a period of 6 months.

SOURCES OF DATA AND MATERIALS USED

- Patient case sheet
- Medication/treatment chart
- Suitable design documentation form
- Laboratory data report
- Prevalent sources
- Informed consent form

STUDY CRITERIA

INCLUSION CRITERIA

- Age >18 and < 80 years
- All the outpatient in hospital who are treated with early detection and immediate treatment.

EXCLUSION CRITERIA

- Psychiatric patient
- pregnant women

DATA ANALYSIS

All data collected were entered into a computer spread sheet and checked before calculation was done. Following literature review, I compare the core prescribing indicators data from this study with those obtained in previous similar studies. The study data were analyzed by using Microsoft excel and statistics software.

STUDY PROCEDURE

The study consisted of the following procedure:-

1. Selection of the topic.
2. Literature survey.
3. Approval from the institutional Ethics Committee and permission from the hospital was obtained before starting the study.
4. The first step after selection of topic in the study was to design a data collection form. The patient data collection was used to collect all the details like inpatient number, patient name, age, sex, data of admission, chief complaints, history of present illness. birth history, allergy, laboratory data, diagnosis, therapeutic management.
5. The second step in the study was various relevant information in case sheet, contraindication, drug interactions and adverse drug events and dose calculations based on culture urine sample and colonization notes in the case sheets followed until the patient is discharged.
6. Evaluate the data of medicine use and other parameters.
7. When the collection of cases was completed then all data to be entered to the appropriate software and the results were obtained.

RESULTS

A total of 92 poisoning admissions were identified during the study period. The demographic details of the victims showed based on age group, 1-9 years was 10(11%), 10-19 years was 8 (9%), 20-29 years was 38(42%), 30-39 years 16(17%), 40-49 years was 9(10%), 50-59 years was 4(4%) and 60-69 years was 7(7%) victims/cases respectively. Majority of victims belonged to age group of 20-29 years. It is known fact that the age groups peoples between 20-29 years and 30-39 years are more prone for this issues due to work pressure, marriage, quarrel with family and other life settlement factors. Male population are more 65% compare to females 35.0% this may be because of males are more often exposed to the stress and strain in day to day life, as well as to the occupational hazards than the females.

The literacy status of the victims showed 8 (9%) was baby, out of which 69(72%) were literate, 15 (20%) were illiterate. The marital status of the victims showed married was 46% followed by single 43% and 11% baby respectively. Married person are more exposed to poisoning when compare to other this may be because of more stressful situation exposure and week minds.

The occupation details of victims showed baby were 8.6% followed by student 15.1%, employee 39.8%, unemployed 35.5%. Employee are found to be a greater in poison consumption because of working in sector which easily exposed to the hazards and easy availability of chemicals and financial crisis etc. Out of 92 cases, 8 (9.6%) cases are intentional and 48(90.4%) cases are observed as accidental poisoning, regarding duration of studies 5(65%) victim were female and 3(37%) were male which was showing the major of suicide cases belongs to the females.

The type of poisoning (substance) and number of victims belonging to each poison showed, majority of poisoning incidences was with snake bite. The Snake bite were observed in 25.8% followed by OP poisoning 21.5%, Unknown 18.3%, Miscellaneous 16.1%, Al-phosphide and Drug overdose were 8.6% respectively.

Therapeutic outcomes among the 92 poisoning cases toxicity rating was observed 51(55%) patients had moderate toxicity and remaining 41(45%) had high toxic which in this 88 (96%) recovered and only 4 (4%) death cause of high toxicity and due to victims consumed combination of poisoning substances, like alcohol, delayed arrival to the hospital, consumption of high toxic substances followed by moderate toxic substance and unknown compound consumption also lead to increases the mortality of the patients.

Out of 92 patients 61 were required for ≤ 3 days ICU hospitality, 10 patients for 4 to 7 days, 14 patients needs for 8 to 11 days and just 7 patients not required to admitted in ICU and total 49(53%) patients had use the mechanical ventilation during the ICU hospitality. So the maximum hospital stay of poisoning cases was observed i.e >14 days was in one patient. The least stayed in hospital was 1 to 3 days was in 61 patients.

➤ **Table 1: Age Distribution of Subjects Studied.**

	Age			
	Frequency	Percent	Valid Percent	Cumulative Percent
1y - 9y	10	11	10.9	10.9
10y - 19y	8	9	8.7	19.6
20y - 29y	38	42	41.3	60.9
30y - 39y	16	17	17.4	78.3
40y - 49y	9	10	9.8	88.0
50y - 59y	4	4	4.3	92.4
60y - 69y	7	7	7.6	100.0
Total	92	100.0	100.0	

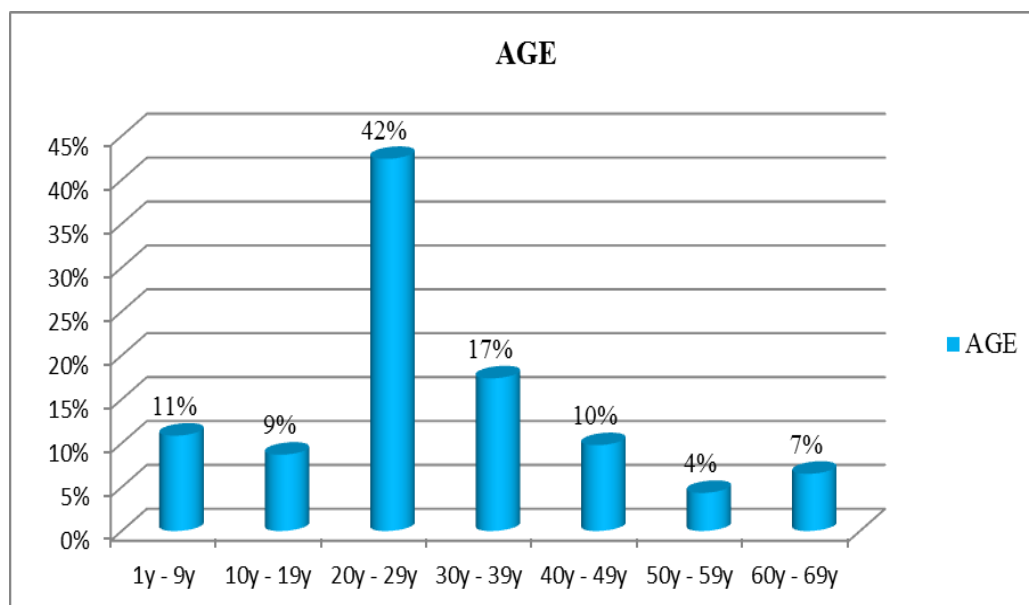


Figure 1.

A total of 92 poisoning admissions were identified during study period the demographic details of the victims showed based on age group, 1-9 years was 10(11%), 10-19 years was 8 (9%), 20-29 years was 38(42%), 30-39 years 16(17%), 40-49 years was 9(10%), 50-59 years was 4(4%) and 60-69 years was 7(7%) victims/cases respectively. Majority of victims belonged to age group of 20-29 years. The same has been depicted as graph in fig no.1.

➤ **Table 2: Gender Distribution of Subjects Studied.**

Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Female	32	35	34.8	34.8
Male	60	65	65.2	100.0
Total	92	100.0	100.0	

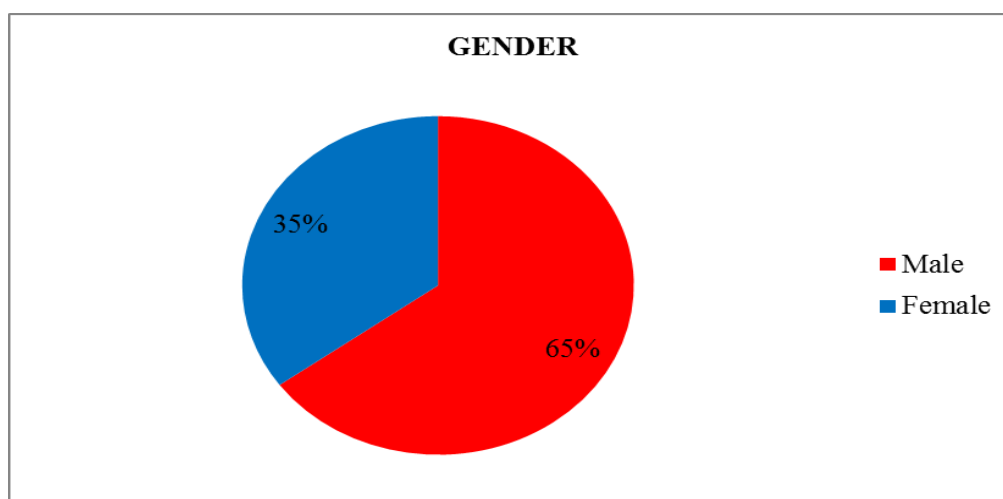


Figure 2.

Data has been collected from 92 patient cases, the demographic details of the victims showed based on gender male population are more 65.0% compare to females 35.0% this may be because of males are more often exposed to the stress and strain in day to day life, as well as to the occupational hazards than the females. The same has been depicted as graph in fig no.2.

➤ **Table 3: Poisoning Distribution of Subjects Studied and Number of Victims Belonging to Each Poison.**

	Poisoning			
	Frequency	Percent	Valid Percent	Cumulative Percent
Drug overdose	8	8.6	8.7	8.7
Unknown	17	18.3	18.5	27.2
Al-phosphide	8	8.6	8.7	35.9
OP poisoning	20	21.5	21.7	57.6
Snake bite	24	25.8	26.1	83.7
Miscellaneous	15	16.1	16.3	100.0
Total	92	100.0	100.0	

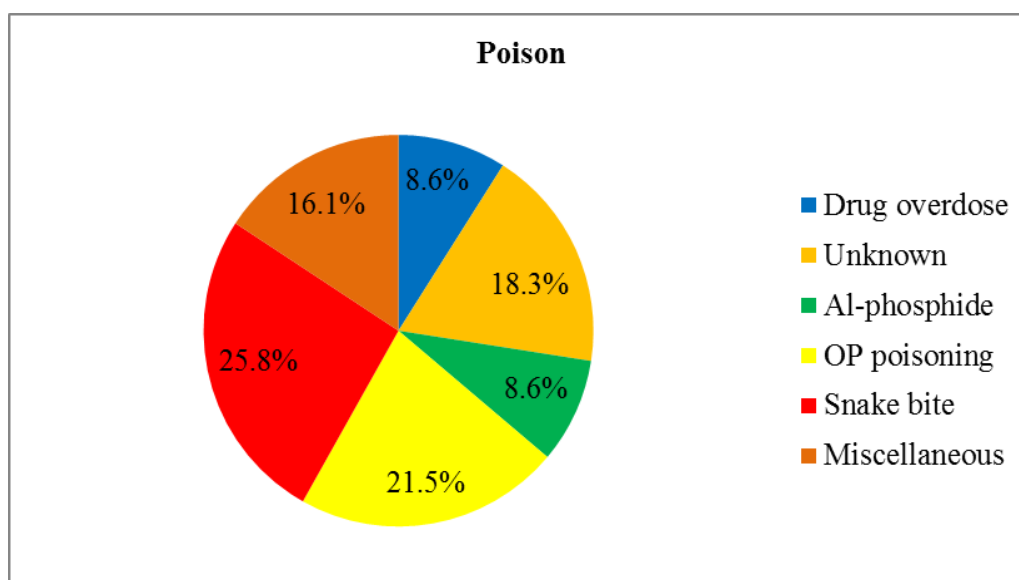


Figure 3.

The type of poisoning (substance) and number of victims belonging to each poison showed, majority of poisoning incidences was with snake bite. The Snake bite were observed in 25.8% followed by OP poisoning 21.5%, Unknown 18.3%, Miscellaneous 16.1%, Al-phosphide and Drug overdose were 8.6% respectively. The same has been depicted as graph in fig no.3.

➤ **Table 4: Common Symptoms in Patients With Poisoning.**

SYMPTOM	NO. OF PATIENTS	Percentage
respiratory distress	41	45%
Vomiting	36	39%
Altered sensorium	36	39%
Abdominal pain	27	29%
Dizziness	14	15%
Burns	12	13%
Bleeding	9	10%
Swelling	7	8%
Unconscious	5	5%
Irritated	5	5%
Drowsy	3	3%
Sensorium	3	3%
Eye pain	3	3%
Sweating	3	3%
Disoriented	1	1%
Unable walking	1	1%
diluted pupil	1	1%
Diarrhea	1	1%
Giddy	1	1%
Shock	1	1%
Fever	1	1%
Pale Skin	1	1%
Cramp	1	1%
Restless	1	1%
Headache	1	1%
Limb Numbness	1	1%
Total	92	100%

Approximately 45% of the patients who developed respiratory distress and 39% have had altered sensorium and vomiting, 29% had abdominal pain, 15% Dizziness, 13% burns, 10% bleeding are major symptoms in patient with different poisoning.

➤ **Table 5: Indications And Dose of the Common Poison Antidotes of Subject Studied.**

Antidotes	indication	dose
N-acetyl cysteine	Paracetamol	150 mg/kg i.v. in 15 min (10 g/70 kg)
	Carbon tetrachloride	50 mg/kg i.v. in 4 hr (3 g/70 kg) 100 mg/kg i.v. in 16 hr (7 g/70 kg)
Atropine	Organophosphates	1 - 2 mg i.v. repeated as necessary
	Methanol	50 gm i.v. followed by 10 - 12 g/hr to keep blood level at 1 - 2 g/L. If haemodialysis, then rate increased to 17-22 g/hr, or ethanol added to dialysate at a conc'n of 1 - 2 g/L; maintain for 4 days.
Ethanol	Amanita phalloides	250 mg/kg i.v. daily
Benzyl penicillin	Calcium channel blockers	10 mL of 10% CaCl ₂ i.v. over 5 - 10 min
Calcium chloride		
Desferrioxamine	Iron	Gastric lavage with 2 g in 1 litre of water. After lavage leave 5 g in 50 mL of water in stomach. i.v. 5 -15 mg/kg/hr for no longer than 24 hr
Dicobalt edetate	Cyanide	600 mg i.v. over 1 minute followed by 300 mg i.v., if no response.
Dimercaprol		
Glucagon	Arsenic, copper, gold, lead, mercury	2.5 - 5 mg/kg IM 4-hourly for two days mercury then 2.5 mg/kg daily.
Pyridoxine	Beta blockers	3 - 10 mg i.v. followed by an infusion at 1 - 5 mg/hr
	Isoniazid	i.v. pyridoxine 1 gram/gram isoniazid ingested or 5 g i.v. each 15 minutes until seizures stopped.

➤ **Table 6: Duration of Total Icu Days of Subjects Studied.**

ICU HOSPITALITY	No. of patient
0	7
≤ 3	61
4 to 7 Days	10
8 to 11 Days	14

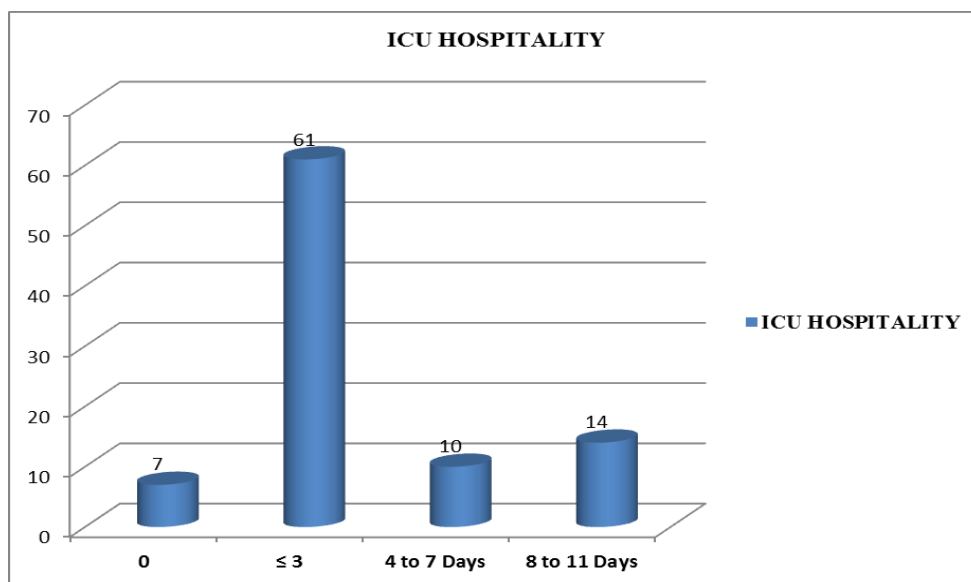


Figure 6.

Out of 92 patients 61 were required for ≤ 3 days ICU hospitality, 10 patients for 4 to 7 days, 14 patients needs for 8 to 11 days and just 7 patients not required to admitted in ICU and total 49(53%) patients had use the mechanical ventilation during the ICU hospitality. The same has been depicted as graph in fig no.6.

➤ **Table 7: Comparison of Toxicity Rating and Clinical Outcomes (Recovery, Death).**

	Severity			
	Frequency	Percent	Recovery	Death
Moderate	51	55	51	-
Highly toxic	41	45	37	4
Total	92	100	88	4

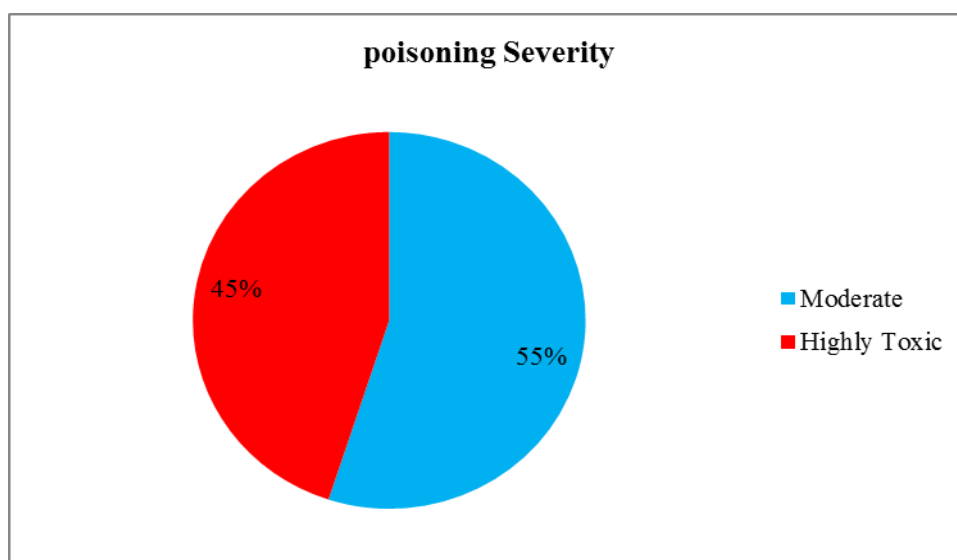


Figure 7.

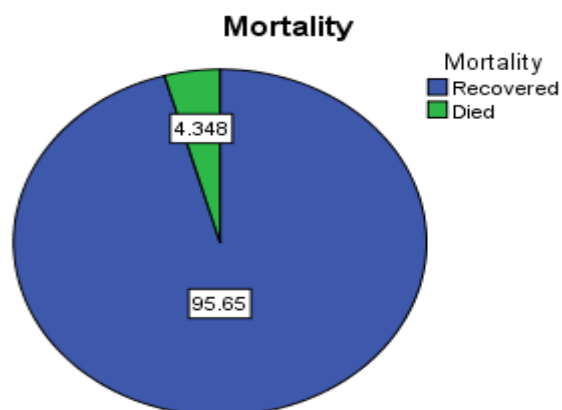


Figure 8.

Therapeutic outcomes among the 92 poisoning cases toxicity rating was observed 51(55%) patients had moderate toxicity and remaining 41(45%) had high toxic which in this 88 (96%) recovered and only 4 (4%) death cause of high toxicity and due to victims consumed combination of poisoning substances, like alcohol, delayed arrival to the hospital, consumption of high toxic substances followed by moderate toxic substance and unknown compound consumption also lead to increases the mortality of the patients. The same has been depicted as graph in fig no.7 & 8.

➤ **Table 9: Occupation of Subjects Syudied.**

Occupation				
	Frequency	Percent	Valid Percent	Cumulative Percent
Baby	8	8.6	8.7	8.7
student	14	15.1	15.2	23.9
employee	37	39.8	40.2	64.1
unemployed	33	35.5	35.9	100.0
Total	92	98.9	100.0	

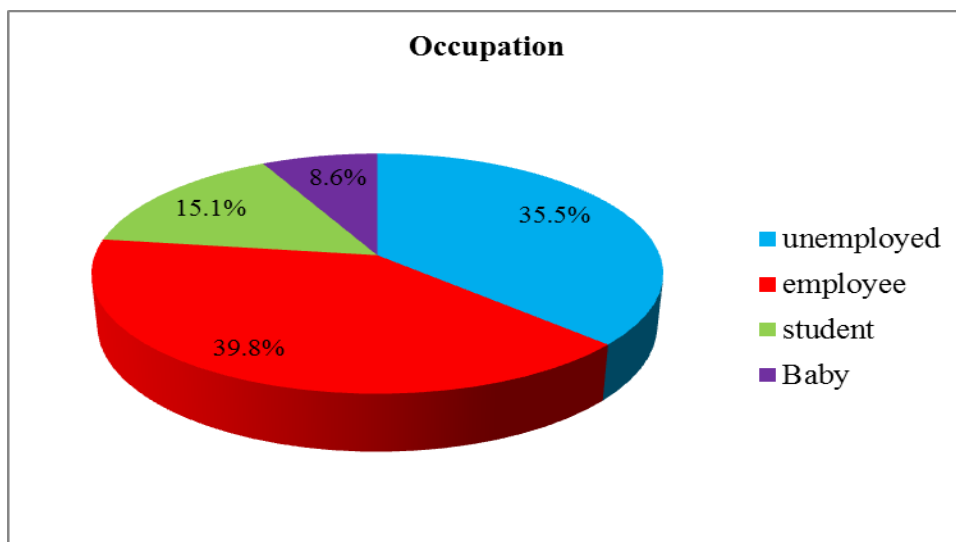


Figure 9.

The occupation details of victims showed baby were 8.6% followed by student 15.1%, employee 39.8%, unemployed 35.5%. Employee are found to be a greater in poison consumption because of working in sector which easily exposed to the hazards and easy availability of chemicals and financial crisis etc. The same has been depicted as graph in fig no.9.

➤ **Table 10: Married Status of Subjects Studied.**

Married status				
	Frequency	Percent	Valid Percent	Cumulative Percent
Married	42	45.2	45.7	45.7
Single	40	43.0	43.5	89.1
baby	10	10.8	10.9	100.0
Total	92	100.0	100.0	

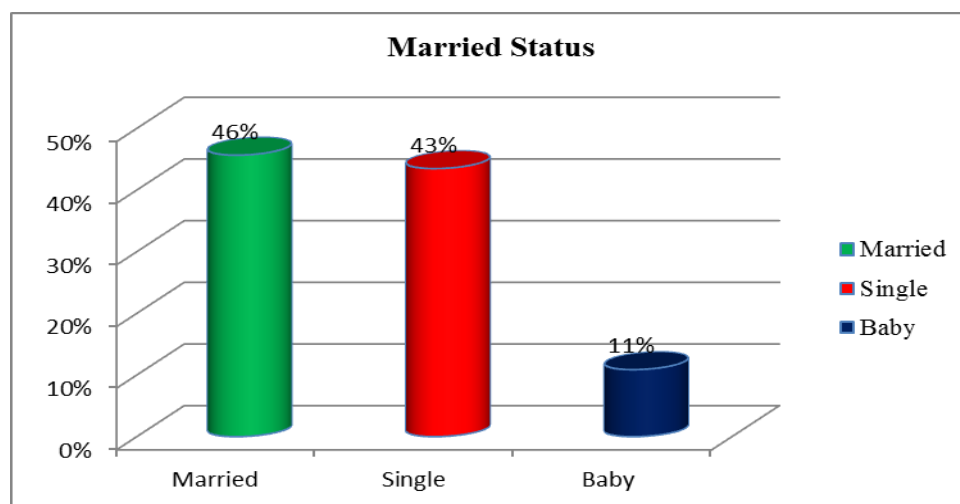


Figure 10.

The marital status of the victims showed married was 46% followed by single 43% and 11% baby respectively. Married person are more exposed to poisoning when compare to other this may be because of more stressful situation exposure and week minds. The same has been depicted as graph in fig no.10.

➤ **Table 11: Qualification Level of Subjects Studied.**

Qualification				
	Frequency	Percent	Valid Percent	Cumulative Percent
baby	8	9.3	8.7	8.7
Literate	69	74.5	75.0	83.7
illiterate	15	16.2	16.3	100.0
Total	92	100	100.0	

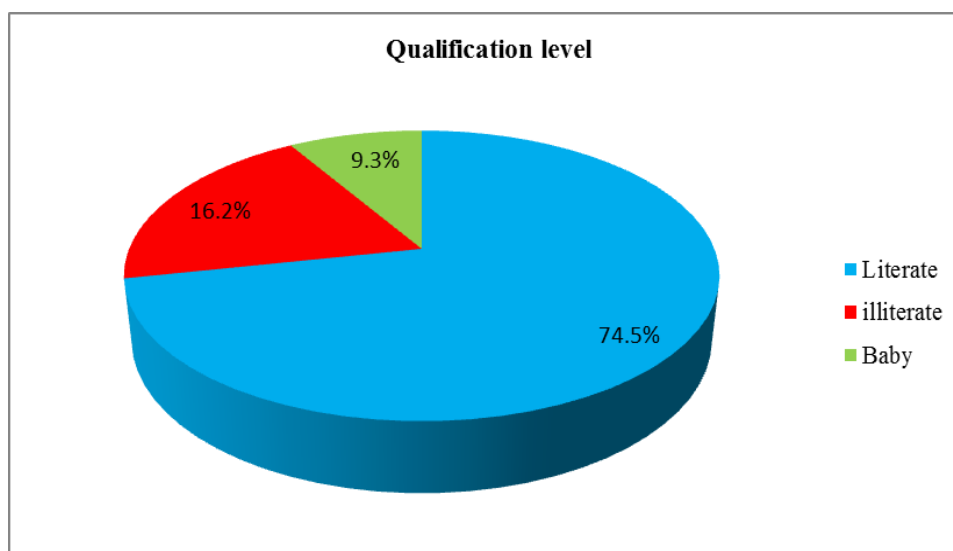


Figure 11.

The literacy status of the victims showed 8 (9%) was baby, out of which 69(72%) were literate, 15 (20%) were illiterate. The same has been depicted as graph in fig no.11.

➤ **Table 12: Distribution for Causes of Poisonin of Subjects Studied.**

Causes					
		Frequency	Percent	Male	Female
Valid	Accidental	84	90.4	57(68%)	27(32%)
	Suicide attempt	8	9.6	3(37%)	5(63%)
	Total	92	100		

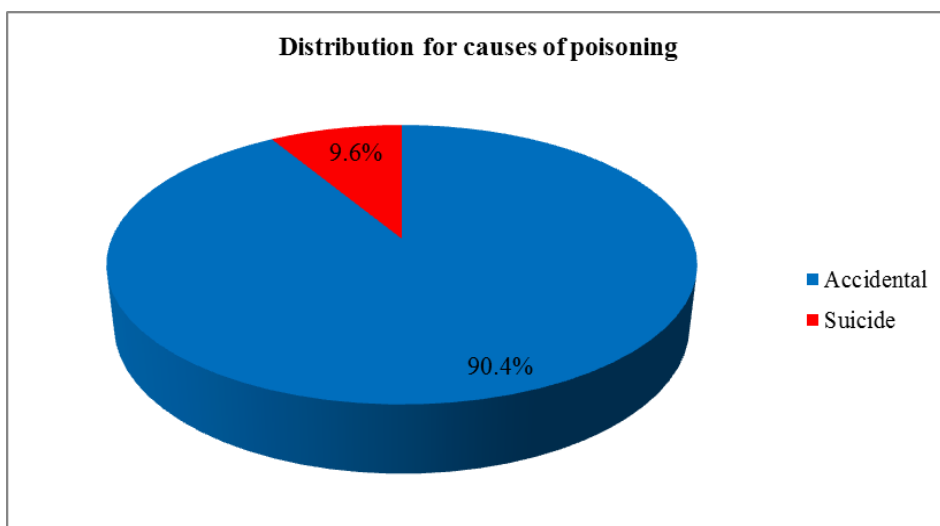


Figure 12.

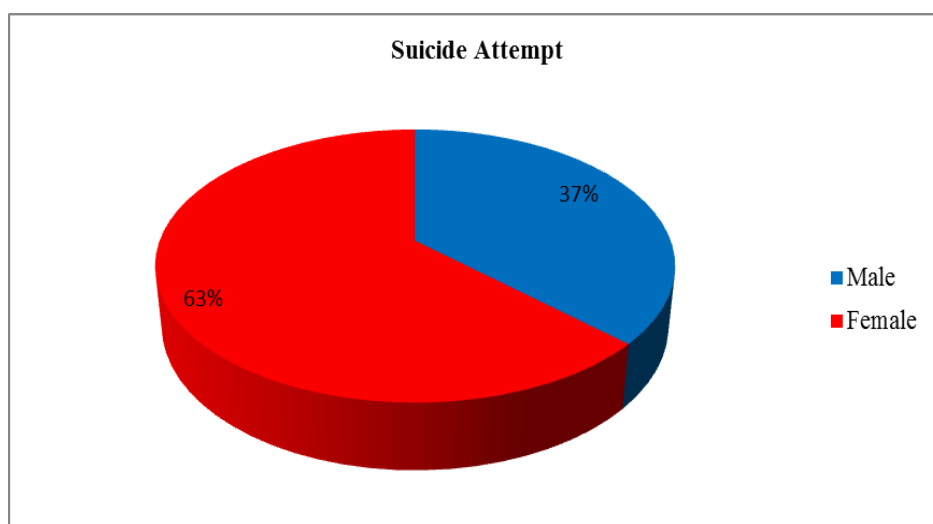


Figure 13.

Among the 92 cases studies 48(90.4%) were accidental poisoning which 57(68%) male and 27(32%) female and 8(9.6%) patients were suicide poisoning which in this 3(37%) victims were male and 5(63%) victims were females that shows during this studies the accidental poisoning was the major cause and the suicide attempt between female is more may be because of more stressful situation exposure, illiterate, family problem, illegitimate pregnancy, love affairs, professional and career problem and etc. The same has been depicted as graph in fig no.12 & 13.

➤ **Table 14: The exposure of age is independent for causes of poisoning of patients or not ?.**

poison		Crosstab							Total
		Age							
		1y - 9y	10y - 19y	20y - 29y	30y - 39y	40y - 49y	50y - 59y	60y - 69y	
Drug overdose	Count	0	1	5	1	0	0	1	8
	% within Poisoning	.0%	12.5%	62.5%	12.5%	.0%	.0%	12.5%	100.0%
	% within Age	.0%	12.5%	13.2%	6.3%	.0%	.0%	14.3%	8.7%
	% of Total	.0%	1.1%	5.4%	1.1%	.0%	.0%	1.1%	8.7%
Unknown	Count	2	3	8	1	1	0	2	17
	% within Poisoning	11.8%	17.6%	47.1%	5.9%	5.9%	.0%	11.8%	100.0%
	% within Age	20.0%	37.5%	21.1%	6.3%	11.1%	.0%	28.6%	18.5%
	% of Total	2.2%	3.3%	8.7%	1.1%	1.1%	.0%	2.2%	18.5%
Al-phosphide	Count	0	0	6	2	0	0	0	8
	% within Poisoning	.0%	.0%	75.0%	25.0%	.0%	.0%	.0%	100.0%
	% within Age	.0%	.0%	15.8%	12.5%	.0%	.0%	.0%	8.7%
	% of Total	.0%	.0%	6.5%	2.2%	.0%	.0%	.0%	8.7%
OP poisoning	Count	3	2	9	4	0	0	2	20
	% within Poisoning	15.0%	10.0%	45.0%	20.0%	.0%	.0%	10.0%	100.0%
	% within Age	30.0%	25.0%	23.7%	25.0%	.0%	.0%	28.6%	21.7%
	% of Total	3.3%	2.2%	9.8%	4.3%	.0%	.0%	2.2%	21.7%
Snake bite	Count	1	0	5	5	7	4	2	24
	% within Poisoning	4.2%	.0%	20.8%	20.8%	29.2%	16.7%	8.3%	100.0%
	% within Age	10.0%	.0%	13.2%	31.3%	77.8%	100.0%	28.6%	26.1%
	% of Total	1.1%	.0%	5.4%	5.4%	7.6%	4.3%	2.2%	26.1%
Miscellaneous	Count	4	2	5	3	1	0	0	15
	% within Poisoning	26.7%	13.3%	33.3%	20.0%	6.7%	.0%	.0%	100.0%
	% within Age	40.0%	25.0%	13.2%	18.8%	11.1%	.0%	.0%	16.3%
	% of Total	4.3%	2.2%	5.4%	3.3%	1.1%	.0%	.0%	16.3%
Total	Count	10	8	38	16	9	4	7	92
	% within Poisoning	10.9%	8.7%	41.3%	17.4%	9.8%	4.3%	7.6%	100.0%
	% within Age	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	10.9%	8.7%	41.3%	17.4%	9.8%	4.3%	7.6%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	46.344 ^a	30	.029
No of Valid Cases	92		

For doing the survey we go through the conformation test which called chi – square test to see The exposure of age is independent for causes of poisoning of patients or not ?

$$H_0: P_{\text{age}} = P_{\text{poisoning}}$$

$$H_1: P_{\text{age}} \neq P_{\text{poisoning}}$$

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(n_{ij} - e_{ij})^2}{e_{ij}}$$

For the result of test within reliable $\alpha = 0.05$

If the quantity is less than 0.05 we just reject the null hypothesis. which shows the equality between two factor. If it is not there we don't have 95 percent confident to refuse null hypothesis because of the result is less than 0.05 the exposure is not independent.

- According to the table above. The p – value of Pearson chi – square is 0.029 At 0.05 level of significant the above stated null hypothesis is rejected. This is because the p-value is less than significant level. It means that the age of patients is dependent for causes of poisoning.

➤ **Table 15: The exposure of Gender is independent for causes of poisoning of patients or not ?.**

Crosstab				
Poisoning		Gender		Total
		Female	Male	
Drug overdose	Count	4	4	8
	% within Poisoning	50.0%	50.0%	100.0%
	% within Gender	12.5%	6.7%	8.7%
	% of Total	4.3%	4.3%	8.7%
Unknown	Count	9	8	17
	% within Poisoning	52.9%	47.1%	100.0%
	% within Gender	28.1%	13.3%	18.5%
	% of Total	9.8%	8.7%	18.5%
Al-phosphide	Count	2	6	8
	% within Poisoning	25.0%	75.0%	100.0%
	% within Gender	6.3%	10.0%	8.7%
	% of Total	2.2%	6.5%	8.7%
OP poisoning	Count	7	13	20
	% within Poisoning	35.0%	65.0%	100.0%
	% within Gender	21.9%	21.7%	21.7%
	% of Total	7.6%	14.1%	21.7%
Snake bite	Count	5	19	24
	% within Poisoning	20.8%	79.2%	100.0%
	% within Gender	15.6%	31.7%	26.1%
	% of Total	5.4%	20.7%	26.1%
Miscellaneous	Count	5	10	15
	% within Poisoning	33.3%	66.7%	100.0%
	% within Gender	15.6%	16.7%	16.3%
	% of Total	5.4%	10.9%	16.3%
Total	Count	32	60	92
	% within Poisoning	34.8%	65.2%	100.0%
	% within Gender	100.0%	100.0%	100.0%
	% of Total	34.8%	65.2%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.698 ^a	5	0.337
No of Valid Cases	92		

- According to the table above .The p – value of Pearson chi – square is 0.337 at 0.05 level of significant the above stated null hypothesis is accepted. This is because the p-value is more than significant level. It means that different category of patients (base on male and female) are equally exposed for cause of poisoning.

➤ **Table 16: The exposure of occupation is independent for causes of poisoning of patients or not ?**

Crosstab						
Poisoning		Occupation				Total
		Baby	student	employee	unemployed	
Drug overdose	Count	0	1	3	4	8
	% within Poisoning	.0%	12.5%	37.5%	50.0%	100.0%
	% within Occupation	.0%	7.1%	8.1%	12.1%	8.7%
	% of Total	.0%	1.1%	3.3%	4.3%	8.7%
Unknown	Count	1	4	3	9	17
	% within Poisoning	5.9%	23.5%	17.6%	52.9%	100.0%
	% within Occupation	12.5%	28.6%	8.1%	27.3%	18.5%
	% of Total	1.1%	4.3%	3.3%	9.8%	18.5%
Al-phosphide	Count	0	0	2	6	8
	% within Poisoning	.0%	.0%	25.0%	75.0%	100.0%
	% within Occupation	.0%	.0%	5.4%	18.2%	8.7%
	% of Total	.0%	.0%	2.2%	6.5%	8.7%
OP poisoning	Count	3	4	5	8	20
	% within Poisoning	15.0%	20.0%	25.0%	40.0%	100.0%
	% within Occupation	37.5%	28.6%	13.5%	24.2%	21.7%
	% of Total	3.3%	4.3%	5.4%	8.7%	21.7%
Snake bite	Count	1	1	20	2	24
	% within Poisoning	4.2%	4.2%	83.3%	8.3%	100.0%
	% within Occupation	12.5%	7.1%	54.1%	6.1%	26.1%
	% of Total	1.1%	1.1%	21.7%	2.2%	26.1%
Miscellaneous	Count	3	4	4	4	15
	% within Poisoning	20.0%	26.7%	26.7%	26.7%	100.0%
	% within Occupation	37.5%	28.6%	10.8%	12.1%	16.3%
	% of Total	3.3%	4.3%	4.3%	4.3%	16.3%
Total	Count	8	14	37	33	92
	% within Poisoning	8.7%	15.2%	40.2%	35.9%	100.0%
	% within Occupation	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	8.7%	15.2%	40.2%	35.9%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.100 ^a	15	0.001
N of Valid Cases	92		

- According to the table above. The p – value of Pearson chi – square is 0.001 at 0.05 level of significant the above stated null hypothesis is rejected. This is because the p-value is less than significant level. It means that Occupation is exposed for cause of poisoning.

➤ **Table 17: To Identify the most often recommended treatment of poisoning.**

Treatment * Poisoning Cross tabulation		Poisoning						Total
		Drug overdose	Unknown	Al-phosphide	OP poisoning	Snake bite	Miscellaneous	
Stomach wash, Pantop , Emeset ,NS	Count	8	0	0	0	0	1	9
	% within Treatment	88.9%	.0%	.0%	.0%	.0%	11.1%	100.0%
	% within Poisoning	100.0%	.0%	.0%	.0%	.0%	6.7%	9.8%
	% of Total	8.7%	.0%	.0%	.0%	.0%	1.1%	9.8%
Vitneurin ,omez, coconut oil ,NS	Count	0	17	0	0	0	0	17
	% within Treatment	.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
	% within Poisoning	.0%	100.0%	.0%	.0%	.0%	.0%	18.5%
	% of Total	.0%	18.5%	.0%	.0%	.0%	.0%	18.5%
stomach wash, pantop , emeset ,NS, coconut oil	Count	0	0	8	0	0	0	8
	% within Treatment	.0%	.0%	100.0%	.0%	.0%	.0%	100.0%
	% within Poisoning	.0%	.0%	100.0%	.0%	.0%	.0%	8.7%
	% of Total	.0%	.0%	8.7%	.0%	.0%	.0%	8.7%
Atropine ,pantop , emeset ,dextrose, NS, pam	Count	0	0	0	20	0	0	20
	% within Treatment	.0%	.0%	.0%	100.0%	.0%	.0%	100.0%
	% within Poisoning	.0%	.0%	.0%	100.0%	.0%	.0%	21.7%
	% of Total	.0%	.0%	.0%	21.7%	.0%	.0%	21.7%
Anti snake venom, hydrocortisone, neostigmine, atropine, piptaz	Count	0	0	0	0	24	0	24
	% within Treatment	.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
	% within Poisoning	.0%	.0%	.0%	.0%	100.0%	.0%	26.1%
	% of Total	.0%	.0%	.0%	.0%	26.1%	.0%	26.1%
pantop,emeset, omez	Count	0	0	0	0	0	6	6
	% within Treatment	.0%	.0%	.0%	.0%	.0%	100.0%	100.0%
	% within Poisoning	.0%	.0%	.0%	.0%	.0%	40.0%	6.5%
	% of Total	.0%	.0%	.0%	.0%	.0%	6.5%	6.5%
omez,emeset, vitneurin,ns	Count	0	0	0	0	0	6	6
	% within Treatment	.0%	.0%	.0%	.0%	.0%	100.0%	100.0%
	% within Poisoning	.0%	.0%	.0%	.0%	.0%	40.0%	6.5%
	% of Total	.0%	.0%	.0%	.0%	.0%	6.5%	6.5%
omez,syrup,kcl,ns	Count	0	0	0	0	0	1	1
	% within Treatment	.0%	.0%	.0%	.0%	.0%	100.0%	100.0%
	% within Poisoning	.0%	.0%	.0%	.0%	.0%	6.7%	1.1%
	% of Total	.0%	.0%	.0%	.0%	.0%	1.1%	1.1%
vitk,omez,DNS, inj Mgso4, coconut oil, Neurobion Forte, inj N acetylcysteine	Count	0	0	0	0	0	1	1
	% within Treatment	.0%	.0%	.0%	.0%	.0%	100.0%	100.0%
	% within Poisoning	.0%	.0%	.0%	.0%	.0%	6.7%	1.1%
	% of Total	.0%	.0%	.0%	.0%	.0%	1.1%	1.1%
Total	Count	8	17	8	20	24	15	92
	% within Treatment	8.7%	18.5%	8.7%	21.7%	26.1%	16.3%	100.0%
	% within Poisoning	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	8.7%	18.5%	8.7%	21.7%	26.1%	16.3%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	444.326 ^a	40	0.000
No of Valid Cases	92		

- In this survey we can see the P-value of Pearson Chi – Square is 0.000 so at $\alpha = 0.05$ level of significance above stated therefore null hypothesis is rejected because the P-value is less than 0.05. It means that these treatments are dependence to these poisoning.

DISCUSSION

One of the major portions of emergency departments is caused by poisoning health problem and may cause critical consequences to health. Different countries and different regions of the same country may show the vary epidemiological characteristics. These varies are because of the educational status, occupation, socioeconomic status, gender and age. Poisoning is affiliated with high morbidity and mortality. Knowing about the local causes of poisoning and region characteristics of patients may be helpful in diagnosis. Some patients treatment includes supportive measures, gastrointestinal (GI) decontamination, methods of increasing elimination of poisons, and antidotes when indicated. Antidotes used from the long time ago of medicine history. In the last few decades the most important developments about the poisoning managements.

This study intended to look into the factors which may be modified to improve outcomes and duration of hospital stay in poisoning and snake bite cases apart from studying their profile characteristics.

In poisoning cases, we noticed a trend for better survival chances in patients who had received first aid at home and some outside treatment before reaching hospital, which was statistically nonsignificant.

The receipt of outside treatment, however, significantly decreased the duration of hospitalization in poisoning cases, thereby implying the need and importance of early treatment in these cases.

The duration of hospital stay also had a direct correlation with lag time in reaching the hospital. Hence, there is a need to strengthen the importance of first aid and develop adequate strategies to improve the quality of treatment prior to referral to higher center. Early access to

treatment, increasing community health awareness and counseling can prove to be useful steps in this direction.

Prompt availability of antidotes is a matter of concern. Hence, strategies need to be implemented in order to improve the affordability and availability of antidotes and improved evidence for their use in order to ensure a rational and cost-effective approach.

Legislative measures to enforce the use of pesticides with low human toxicity and slow onset of action, reducing the bottle size and pesticide concentration might be helpful in decreasing the associated mortality burden.

Implementation of integrated pest and vector management practices will reduce pesticide use in rural communities and therefore reduce their availability for self-harm. Also, steps can be taken to educate public about pesticide use and its harmful effects on body systems. Besides, there is a continuous need to provide a more locally available and affordable hospital care at community level.

The type of poisoning (substance) and number of victims belonging to each poison showed, majority of poisoning incidences was with snake bite. The Snake bite were observed in 25.8% followed by OP poisoning 21.5%, Unknown 18.3%, Miscellaneous 16.1%, Al-phosphide and Drug overdose were 8.6% respectively.

Approximately 45% of the patients who developed respiratory distress and 39% have had altered sensorium and vomiting, 29% had abdominal pain, 15% Dizziness, 13% burns, 10% bleeding are major symptoms in patient with different poisoning.

Among the 92 cases studies 48(90.4%) were accidental poisoning which 57(68%) male and 27(32%) female and 8(9.6%) patients were suicide poisoning which in this 3(37%) victims were male and 5(63%) victims were females that shows during this studies the accidental poisoning was the major cause and the suicide attempt between female is more may be because of more stressful situation exposure, illiterate, family problem, illegitimate pregnancy, love affaires, professional and career problem and etc.

CONCLUSION

The huge burden of poisoning and snake bite cases encountered in emergency department demands the identification of factors causing high mortality and implementation of

comprehensive strategies to improve outcomes. Few appropriate measures observed in this study include early referral to hospital and provision of first aid.

Besides, legislative measures to reduce hazards associated with pesticide use need to be enforced. Also, there is a need to improve techniques for early and accurate diagnosis in poisoning cases for provision of prompt and adequate treatment and to improve evidence for ensuring the rational and more cost-effective use of antidotes.

Involvement of the clinical pharmacist in the poisoning management will improve the recognition of poison and toxicity rating of materials followed by giving the information about the poisoning and poison.

Preparing the treatment protocol and treatment guideline will improve the health care professional for fast and better treatment which will follow by reducing in mortality rate and increased the therapeutic out comes. The poison safety guideline and improving the knowledge about the poison and poisoning will help in reducing / prevent the poisoning cases.

SUMMARY

Poison is defined as any substance that causes a harmful effect when administered, either by accident or designed to a living organism. Its dose related adverse effects caused due to exposures of chemicals, drugs or other xenobiotics, are responsible for morbidity and mortality which vary from country to country. Worldwide intentional poisoning was increasing day by day due to change in the life style and social behavior are responsible for mortality and morbidity. The various reasons responsible for poisoning are distress due to loss in the business, failure in romance or differences with the intimate partner or examination, emotional disturbances and chronic diseases are the common reasons for intentional poisoning. Acute pesticide poisoning is one of the most common causes of intentional deaths worldwide. The various bites and stings are responsible for accidental poisoning.

World Health Organization published in 1990, around 3 million poisoning cases with 220,000 deaths occur annually. Recently some review articles reported that the number of intoxications with organophosphate pesticides was 3 million per year and the number of deaths and casualties are 300,000 per year worldwide. Agriculture pesticides are used in

Asian region for self poisoning particularly in rural areas with a fatality range of 10-20%. Majority of pesticide exposure are seen more in middle and low income countries due to increased use/accessibility of agrochemicals in agricultural sector. The data from poison information center of All India Institute of Medical Sciences (AIIMS) reveals that highest incidence of poisoning cases was found in the age group of 14-40 years with male preponderance. Pesticide poisoning is a significant problem in India. Because, predominantly it is an agrarian country about 60 to 80% of rural population depend on agriculture. Pesticides are routinely used for advanced farming and are readily available over the counter for agriculture purposes. Therefore, a pesticide is an easy accessing source for suicidal purpose. Several studies have revealed that Pesticides are the commonly used poisoning agents for intentional poisoning in India.

Organophosphorus pesticides are also used widely for agriculture, vector control and domestic purposes. Despite the apparent benefits of these uses, acute organophosphorus pesticide poisoning is increasing worldwide and particularly even in rural areas. Acute organophosphorus pesticides consumption are the most important cause of severe toxicity and death worldwide, more than 200 000 deaths are found in developing countries in each year. The incidence of severe acute organophosphorus pesticide poisoning is very less in developed countries. Organophosphorus compounds cause most self-poisoning deaths in southern. Farmers form a significant proportion of the population who commonly use organophosphorus compound like parathion as insecticides. Thus, due to the easy accessibility or improper handling of these compounds, a large number of suicidal cases are encountering. So The main objective of the study was to assess the various poisoning cases admitted and the impact of clinical pharmacist in the management of poisons. Snake bite is also a major problem worldwide. According to estimates, more than 5 million venomous snake bites occur every year, and nearly, 125,000 of those who suffer snake bite die, with the majority of the deaths occurring in the rural population because of inadequate primary treatment and lack of tertiary care facilities.

A prospective, observational study was carried out in emergency department for a period of 6 months in Baptist hospital in Bangalore.

A total of 92 poisoning admissions were identified during the study period. The demographic details of the victims showed based on age group, 1-9 years was 10(11%), 10-19 years was 8 (9%),20-29 years was 38(42%),30-39 years 16(17%), 40-49 years was 9(10%), 50-59 years

was 4(4%) and 60-69 years was 7(7%) victims/cases respectively. Majority of victims belonged to age group of 20-29 years. It is known fact that the age groups peoples between 20-29 years and 30-39 years are more prone for this issues due to work pressure, marriage, quarrel with family and other life settlement factors. Male population are more 65% compare to females 35.0% this may be because of males are more often exposed to the stress and strain in day to day life, as well as to the occupational hazards than the females.

The literacy status of the victims showed 8 (9%) was baby, out of which 69(72%) were literate, 15 (20%) were illiterate. The marital status of the victims showed married was 46% followed by single 43% and 11% baby respectively. Married person are more exposed to poisoning when compare to other this may be because of more stressful situation exposure and week minds.

The occupation details of victims showed baby were 8.6% followed by student 15.1%, employee 39.8%, unemployed 35.5%. Employee are found to be a greater in poison consumption because of working in sector which easily exposed to the hazards and easy availability of chemicals and financial crisis etc. Out of 92 cases, 8 (9.6%) cases are intentional and 48(90.4%) cases are observed as accidental poisoning, regarding duration of studies 5(65%) victim were female and 3(37%) were male which was showing the major of suicide cases belongs to the females.

The type of poisoning (substance) and number of victims belonging to each poison showed, majority of poisoning incidences was with snake bite. The Snake bite were observed in 25.8% followed by OP poisoning 21.5%, Unknown 18.3%, Miscellaneous 16.1%, Al-phosphide and Drug overdose were 8.6% respectively.

Therapeutic outcomes among the 92 poisoning cases toxicity rating was observed 51(55%) patients had moderate toxicity and remaining 41(45%) had high toxic which in this 88 (96%) recovered and only 4 (4%) death cause of high toxicity and due to victims consumed combination of poisoning substances, like alcohol, delayed arrival to the hospital, consumption of high toxic substances followed by moderate toxic substance and unknown compound consumption also lead to increases the mortality of the patients. Out of 92 patients 61 were required for ≤ 3 days ICU hospitality, 10 patients for 4 to 7 days, 14 patients needs for 8 to 11 days and just 7 patients not required to admitted in ICU and total 49(53%) patients had use the mechanical ventilation during the ICU hospitality. So the maximum hospital stay

of poisoning cases was observed i.e >14 days was in one patient. The least stayed in hospital was 1 to 3 days was in 61 patients.

Therefore Initial resuscitation should be based on the assessment of the patient and not the particular toxin involved and standard advanced life support (ALS) guidelines should be followed. Specific instances where treatment may differ are indicated below. The majority of patients taking overdoses or with drug toxicity are young and healthy, so cardiac and respiratory support should be continued for much longer periods of time in patients with a toxicity-related cardiorespiratory arrest.

If there is any doubt, cardiac compression and ventilator support should be continued until the situation has been discussed with a clinical toxicologist. There has been survival with normal neurological function in patients receiving cardiopulmonary resuscitation (CPR) for hours.

FUTURE DIRECTIONS

1. More study on poisons can be done.
2. Study can be going on longer period to get the better analysis.
3. Study on all and each poison separately can be done.

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