



(RESEARCH ARTICLE)



Study on the pattern of poisoning and their management in tertiary care hospital

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GSC Biological and Pharmaceutical Sciences, 2024, 28(01), 071–082

Publication history: Received on 25 May 2024; revised on 08 July 2024; accepted on 11 July 2024

Article DOI: <https://doi.org/10.30574/gscbps.2024.28.1.0253>

Abstract

Background: Poisoning is a common medico-social problem now days all over the world. The study evaluates the cases admitted in TUTH, Maharajgunj, Kathmandu. Various parameters like Age, Sex, Marital status, Educational status, Type of poisoning, Intent of poisoning, Duration of treatment and Treatment pattern were analyzed.

Objectives: The aim of this study was to study the Pattern of Poisoning and their Management.

Methods: This is a cross sectional descriptive study in which the data of the 120 poisoning patients in emergency ward of Tertiary Care Hospital, TUTH, Maharajgunj was recorded from the data collection form and through the inquiry. The collected data was enter in Microsoft Excel and data analysis was done in Statistical Package for Social Sciences (SPSS) software of version 25.

Result: Most of the poisoning cases were found in the age group of 21-30 years i.e. 42.5% and least poisoning cases were found in 56 -70 and 61-70 years i.e. 4.2%. The mean age of the study population was found to be 30.06 ± 12.82 years. The numbers of female patient were 56.7% which is higher than males 43.3%. The percentage of unemployed patients was 40% which also illustrated the cause for poisoning. The common agents involved in poisoning were Organophosphate Compounds i.e. Metacid and Chlorpyrifos within 51.7% cases and followed by Zinc Phosphorus Poisoning i.e. 13.3% cases. It was found that 92.5% of the cases were intentional and 7.5% of the cases were accidental. The main reason for intentional poisoning was family dispute i.e. 87.9%. The mean hospital stay was 4.44±2.49 Days. Gastric Lavage was perform on 87% cases along with Antidotes on 65% cases and Gastric Acid Inhibitors on 89.2% cases.

Conclusion: The numbers of female patient were higher than males. Most of the poisoning cases were found in the age group of 21-30 years. The unemployed patients were 40% which also illustrated the cause for poisoning. Common agents involved in poisoning were Organophosphate Compounds. It was found that 92.5% of the cases were intentional for suicidal attempt. Gastric Lavage was perform on 91.6% cases. Atropine and Pralidoxime were used in Organophosphate Poisoning while N-Acetyl Cysteine was used as antidote on Paracetamol and Mushroom Poisoning. Pneumonia was found in 1.7% cases whereas other complications were not found on rest of the sample.

Keywords: Poisonings; Organophosphate; Pesticide; Drug over dosage

1. Introduction

The word poison originates from the Latin word *Potionem* which means deadly draught. The Herald of modern Toxicology, Paracelsus, supposed that everything is poison and only the dose plays a pivotal role ⁽¹⁾. Any substance when ingested in large quantities can be toxic ⁽²⁾. Poison is defined as any agent that can injure, kill or impair normal

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physiological function in humans by producing general or local damage or dysfunction in the body by its chemical activity⁽³⁾. Poisoning occurs by the absorption of chemical, physical or organic substances into the body through the gastrointestinal tract, skin, mucosa or respiratory tract⁽⁴⁾. Poisoning is a common medico-social problem all over the world which may result in morbidity & mortality⁽⁵⁾. Acute poisoning is a common and urgent medical problem in all developed and developing countries. Poisoning is the fourth most common cause of death in India and it has been estimated that five to six persons per lakh of population die due to acute poisoning in every year. According to WHO more than three million poisoning cases with 251,881 deaths occur worldwide annually and 99% of fatal poisonings occur in the developing countries particularly among agricultural workers⁽⁶⁾.

Poisoning with overuse or misuse of various pesticides, herbicides, drugs and other toxic compounds frequently occurs in Nepal. Poisoning is a common cause for emergency department visits and medical admissions in various hospitals⁽⁷⁾ suggesting it to be a major public health problem in the country. Poison can be simply defined as a substance which harms health or destroys life when applied externally into the human body⁽⁸⁾. In Nepal, narcotic drug control Act 2038 and pesticide Act 2048 prohibits the misuse of narcotics and pesticides but the improper implementation of these Acts has led to various poisoning problems⁽⁹⁾. Recently certain articles testified that number of intoxications with organophosphate pesticides were three million per year and number of deaths is 3,00,000 per year worldwide⁽¹⁰⁾. Worldwide prevailing ratio of poisoning cases is about 5-10% according to the study performed by Susic et al⁽¹¹⁾.

Removal of unabsorbed poison from the gut can be accomplished by several means including gastric lavage and use of activated charcoal and cathartics.

The patient should be placed in left lateral position for inserting an orogastric lavage tube and helps to prevent aspiration and also reduce the entry of lavage fluid and poison into duodenum. If patient is unconscious, endotracheal tube must be inserted before lavage tube insertion in order to protect against aspiration into the lungs. A large bore tube is inserted into the stomach and its position is checked by injecting air through the tube into stomach. The lavage is then performed by using fluid aliquots of 3-4 ml/kg. Generally, isotonic saline at 37°C is preferable in order to prevent chances of hypothermia and hyponatraemia. A lavage is contraindicated during the ingestion of volatile hydrocarbons⁽¹²⁾.

Use of activated charcoal has revolutionized the treatment of poisoning. Due to the small particle size and enormous surface area of activated charcoal it can adsorb large amount of toxins. The usual dose of activated charcoal is about 1 g/kg of body weight or 10 parts of charcoal for every one part of toxin. Activated charcoal is contraindicated in patients with airway distress⁽¹³⁾.

Commonly used cathartics used in poisoning are magnesium sulphate (30 g for adults and 250 mg/kg in children), magnesium citrate (4 ml/kg up to a maximum of 300 ml) and sorbitol (1g/kg as 70% solution). Cathartics are contraindicated in the presence of intestinal obstruction, renal failure, hypotension, severe diarrhoea and abdominal trauma⁽¹⁴⁾. Antidotes are chemical or physiological antagonists that prevent toxicological effect of specific poisons⁽¹⁵⁾.

Poisoning has been a common cause of medical admissions and deaths in Nepalese hospitals⁽¹⁶⁾. Metacid (Methyl parathion) and Nuvan (Dichlorovos) are commonly ingested OP pesticides while Dimethoate, Profenofos and Chlorpyrifos are other less frequently ingested compounds in Nepal⁽¹⁷⁾. Around 15-20% of workload of medical units is due to self-poisoning in UK and paracetamol is one of the commonest drugs involved in self-poisoning⁽¹⁸⁾. Poisoning in the pediatric age group is generally occurs due to accidental ingestion of commercial and house-hold poisonous products while intentional self-poisoning is the common mode in adolescents and adults⁽¹⁹⁾.

Various complications come after poisoning also leads for the rational study of poisoning patients to overcome the resultant complications. However, a study done in Turkey revealed that the main agents of self-poisoning are a use of antidepressants drugs. It was also found that unintentional poisoning commonly resulted from intake of mushrooms⁽²⁰⁾. Lack of specialized toxicological services in developing countries like Nepal and India has further contributed for higher rates of morbidity and mortality⁽²¹⁾.

Poisoning occurs due to exposing to the chemicals or drugs cause disturbances of various pharmacokinetic and pharmacodynamic parameters of our body and even causes the death so the purpose of this study is to determine treatment measures towards various poisoning cases. Present study supports to identify the demographic and psychosocial aspects of the patients which can provide information to provide a practical guide for the general practitioners and hospital staffs towards the management of acute poisoning. Laboratory tests can be used to detect blood or urine levels of the poisonous substance in the patients which helps to relieve the patient from further

complications. Accidental poisoning by pediatric groups can be minimized by conducting educational programs for the peoples in the rural regions.

2. Methods

2.1. Study design and Study site

This is a cross sectional descriptive study in which the data of the poisoning patients in emergency ward of Tertiary Care Hospital, TUTH, Maharajgunj. The respective site was selected for the study purpose because it is one of the renowned national level tertiary care hospital with good patient flow.

2.2. Sampling Size

One hundred and twenty cases were collected from the emergency ward of Tribhuvan University Teaching Hospital, Maharajgunj within the July 10- November 10, 2019.

2.3. Sampling Method

Purposive sampling technique was carried out.

2.4. Study Variables

- Dependent variables: Types of poisoning, Complications of poisoning, Medications use in poisoning
- Independent variables: Age, Education, Occupation, Marital status

2.5. Criteria for Sample selection

- Inclusion criteria: Patient of poisoning attended in emergency ward of TUTH
- Exclusion criteria: Pediatric Patients

2.6. Tools and Technique for data collection

Documented data sheet and interview were used as data collection tool. Data collection was done by the principle investigator and all those who fall in the inclusion criteria was taken for the study during the data collection period after taking approval of patient consent. A semi - structured data collection form was enrolled for collection of clinical variants like demographic variables, drugs prescribed and variable associated with poisoning cases.

2.7. Data management and statistical analysis

Data entry, data checking, compiling and editing was done manually as per the objectives of the study. Necessary editing and re-data collection was done immediately after data collection. Collected data was entered in Microsoft Excel data sheet and data analysis was done in Statistical Package for Social Sciences (SPSS) software version 25. The statistical analysis methods were bar-diagrams, charts and averages.

2.8. Validity and Reliability

The pre-designed and pre-tested structured questionnaires were used.

2.9. Ethical Considerations

Ethical clearance was taken from IRB [Ref. Code: 499(6-11)E²/075/76], IOM for study purpose. The written consent was taken from the patient after clarifying the objectives and purpose of the study. The identity and sensible information were kept confidential. The opportunity was also given to the patient to ask about the research during entire data collection period.

3. Result

The study was conducted over a period of 3 months in emergency ward of Tribhuvan University Teaching Hospital (TUTH), Maharajgunj. A total of 120 patients were observed and the following evaluations were made.

3.1. Age of Patients

The age group of the patients were from 11- 70 years. Most of the poisoning cases were found in the age group of 21-30 years i.e. 42.5% and least poisoning cases were found in 56 -70 and 61-70 years i.e. 4.2%. The mean age of the study population was found to be 30.06 ± 12.82 years.

Table 1 Age of Patients (N=120)

Age of Patient	Frequency	Percentage
11-20	30	25%
21-30	51	42.5
31-40	18	15%
41-50	11	9.2%
51-60	5	4.2%
61-70	5	4.2%
Total	120	100%

3.2. Gender distribution, marital status and Education status of Patients

The percentage of female patient were 56.7% which is higher than males i.e. 43.3%. Similarly, 58.4 % were married and 41.6% were unmarried out of 120 cases. It was also found that 50.9% were literate and 49.1% were illiterate.

Table 2 Gender distribution, Marital status and Education status of Patients (N=120)

Sex	Married Population		Unmarried Population		Total
	Literate*	Illiterate**	Literate	Illiterate	
Male	13 (10.8%)	19 (15.8%)	9 (7.5%)	11 (9.2%)	52 (43.3%)
Female	13 (10.8%)	25 (20.9%)	26 (21.7%)	4 (3.3%)	68 (56.7%)
Total	26 (21.7%)	44 (36.7%)	35 (29.2%)	15 (12.4%)	120 (100%)

Literate: Primary to Higher Education Illiterate: Non-Schooling

3.3. Occupations of Patients

The percentage of unemployed patients was 40% which illustrated unemployment as also the cause for poisoning. The second higher poisoning was found on Labour (26.7%) followed by Student (25.8%), Farmer (3.3%), Business (2.5%) and Finance (1.7%).

Table 3 Occupations of Patients (N=120)

Occupations	Gender of Patients		Total
	Male	Female	
Student	8 (6.7%)	23 (19.2%)	31 (25.8%)
Farmer	3 (2.5%)	1 (0.8%)	4 (3.3%)
Unemployment	11 (9.2%)	37 (30.8%)	48 (40%)
Labour	27 (22.5%)	5 (4.2%)	32 (26.7%)
Business	3 (2.5%)	Zero	3 (2.5%)
Finance	Zero	2 (1.7%)	2 (1.7%)

3.4. Type of poisoning

The common agents involved in poisoning were Organophosphate Compounds within 51.7% cases and followed by Zinc Phosphorus Poisoning (13.3%) cases.

Table 4 Type of Poisoning (N=120)

Type of Poisoning	Frequency	Percentage
Non-Medicinal Poisoning		
Organophosphate	62	51.7%
Zinc Phosphide	16	13.3%
Aluminium Phosphide	7	5.8%
Phenol	3	2.5%
Corrosive Acid	3	2.5%
Medicinal Poisoning		
Multiple Drug	4	3.3%
Carbamazepine	5	4.2%
Paracetamol	9	7.5%
Nimesulide	3	2.5%
Food Poisoning		
Mushroom	5	4.2%
Alcohol	3	2.5%

Multiple drug Poisoning involved the overdoses of Paracetamol, Sinex, Levofloxacin, Esomeprazole, Norfloxacin, Losartan, Amlodipine, Ibuprofen and Buscopan.

3.5. Intent of poisoning

It was found that 92.5% of the cases were intentional for suicidal attempt and 7.5% of the cases were accidental. The intentional poisoning was found higher between the age group of 21-30 i.e. 39.2% followed by the age group of 11-20 i.e. 22.7%. Similarly, accidental poisoning was also higher in age group of 21-30 i.e. 3.3%.

Table 5 Intent of Poisoning (N=120)

		Intent of Poisoning	
		Intentional Cases	Accidental Cases
Gender	Male	48 (40%)	4 (3.3%)
	Female	63 (52.5%)	5 (4.2%)
Age	11-20	27 (22.5%)	3 (2.5%)
	21-30	47 (39.2%)	4 (3.3%)
	31-40	17 (14.2%)	1 (0.8%)
	41-50	11 (9.2%)	Zero
	51-60	4 (3.3%)	1 (0.8%)
	61-70	5 (4.2%)	Zero

3.6. Reasons of poisoning

The main reason for poisoning was family dispute (87.9%) and other supportive reasons were Love affairs (5.6%), Exam Failure (3.7%) and Depression (2.8%) within 111 intentional poisoning.

Table 6 Reason for Poisoning (N=120)

Reasons of Poisoning	Gender of Patients Male Female		Total
	Male	Female	
Family Dispute	44 (39.6%)	54 (48.6%)	98 (88.3%)
Love Affairs	2 (1.8%)	4 (3.6%)	6 (5.4%)
Depression	2 (1.8%)	1 (0.9%)	3 (2.7%)
Exam Failure	Zero	4 (3.6%)	4 (3.6%)

Misunderstanding between husband and wife and the family stress were the major cause for family dispute.

3.7. Hospital stay of the Patients

The hospital stay of the admitted patients ranged from 1 day to 15 days. The 6.6% of the admitted patients were shift for intensive care unit during the hospital stay. Similarly, 36.7% of patients stayed in the hospital for 1-3 days, 52.5% for 4 -6 days, 4.2% for 7-9 days, 4.2% for 10-12 days and 2.5% for 13-15 days. The mean hospital stay was 4.44 ± 2.49 Days.

Table 7 Hospital Stay of Patients (N=120)

Hospital stay on Organophosphate Poisoning			
Days	Frequency	Percentage	Mean Duration
1-3	6	5%	5.8±2.6 Days
4-6	43	35.9%	
7-9	5	4.1%	
10-12	5	4.1%	
13-15	3	2.5%	
Hospital stay on Zinc Phosphide Poisoning			
1-3	6	5%	3.4±1.03 Days
4-6	10	8.3%	
Hospital stay on Aluminum Phosphide Poisoning			
1-3	4	3.3%	3.1±1.3 Days
4-6	3	2.5%	
Hospital stay on Carbamazepine & Mushroom Poisoning			
1-3	5	4.2%	2.6±0.5 Days
Duration of Hospital stay of Paracetamol Poisoning			
1-3	8	6.7%	2.3±1 Days
4-6	1	0.8%	
Hospital stay on Alcohol, Phenol & Corrosive acid Poisoning			
1-3	1	0.8%	3.6±0.5 Days

4-6	2	1.7%	
Hospital stay on Multiple Drug Poisoning			
1-3	4	3.3%	2.8±0.5 Days
Hospital stay on Nimesulide Poisoning			
1-3	3	2.5%	2.1±1.6 Days

3.8. Pattern for Management of Poisoning Cases

Normal Saline was given for all the patients while DNS was given for only 33% cases. Gastric Lavage with NS was vital approach for the management of poisoning on 91.6% cases along with Antidotes on 65% cases and Gastric Acid Inhibitors on 89.2% cases. Similarly, Anti-Emetics Drugs, Anticonvulsant Drugs, Antibiotics, Ulcer Protective, Vitamins and Miscellaneous Drugs (Buscopan, Amlodipine, Nor- Adrenaline, Furosemide, Tricaine Gel, Normogel, Magnesium Sulphate and Potassium Chloride) were used for symptomatic treatment management of poisoning cases. During ABC Analysis vital parameters such as Respiratory Rate, Pulse Rate, Blood Pressure and Body Temperature were observed frequently.

Table 8 Pattern for Management of Poisoning (N=120)

Management Pattern	Frequency	Percentage
ABC Analysis	120	100%
Normal Saline	120	100%
DNS	40	33%
Gastric Lavage with NS	110	91.6%
Antidotes	78	65%
Gastric Acid Inhibitors	107	89.2%
Anti-Emetics Drugs	61	50.8%
Anticonvulsant Drugs	9	7.5%
Antibiotics	41	34.2%
Ulcer Protective	4	3.3%
Vitamins	20	16.7%
Miscellaneous Drugs	32	26.7%

3.9. Antidotes Prescribed in Management of Poisoning Cases

Atropine and Pralidoxime were used in Organophosphate Poisoning while N-Acetyl Cysteine was used as antidote on Paracetamol and Mushroom Poisoning. Atropine was given for counteracts muscarinic effects while the Pralidoxime was given to prevent the neuromuscular paralysis in Organophosphate Poisoning. The dose of atropine was increased from 2 to 21 ampule until the patient was fully atropinized i.e. Fully Dilated Pupil, Dry Mouth, Flushed Skin and Tachycardia.

Table 9 Antidotes Prescribed in Management of Poisoning Cases (N=120)

Antidotes	Prescribed Dose	Frequency	Percentage
Atropine	2 to 14 ampule in 41.7% cases & 3 to 21 ampoule in 10% cases	62	51.7%
Pralidoxime	1-2 gm IV for 6 to 8 hour	38	30.8%
N-Acetyl Cysteine	150mg/kg IV in 200ml NS & decreased dose up to 50mg/kg in 500ml NS	16	13.3%

3.10. Drugs Prescribed in the Symptomatic Management of Poisoning:

Pantoprazole and Ranitidine were used for the inhibition of gastric secretion. Diazepam, Midazolam, Clonazepam and Phenytoin were also used to control seizure. Similarly, Antibiotics such as Ceftriaxone and Cefixime were prescribed for the prevention from microbial infections.

Table 10 Drugs Prescribed in the Symptomatic Management of Poisoning (N=120)

Gastric Acid Inhibitors	Dose	Route	Frequency	Percentage
Ranitidine	50mg or 150 mg Stat	IV	5	4.2%
Pantoprazole	40 mg Stat	IV	103	85.8%
Anti-Emetics Drugs				
Metoclopramide	10 mg Stat	IV	6	5%
Haloperidol	5mg or 10 mg Stat	IV	2	1.6%
Ondansetron	4 mg Stat	IV	53	44.2%
Anticonvulsant Drugs				
Diazepam	5 mg or 10 mg Stat	IV	7	5.8%
Midazolam	2 mg Stat	IV	2	1.7%
Clonazepam	2 mg OD	Oral	1	0.8%
Phenytoin	100 mg Stat	IV	1	0.8%
Analgesic				
Paracetamol	500 mg or 1 gm Stat	IV	3	2.5%
Antibiotics				
Ceftriaxone	1 gm Stat	IV	39	32.5%
Cefixime	200 mg OD	Oral	1	0.8%
Ulcer Protective				
Sucralfate Syrup	20 ml	Oral	4	3.3%
Vitamins				
Thiamine	200mg Stat	IV	3	2.5%
Vitamin K	10mg Stat	IV	20	16.5%
Vitamin B Complex	2-3 Teaspoonful		2	1.7%
Miscellaneous Drugs				
Buscopan	20mg Stat	IV	10	8.3%
Amlodipine	10 mg	Oral	2	1.7%
Nor - Adrenaline	0.1 mcg/kg Stat	IV	2	1.7%
Furosemide	20 mg Stat	IV	2	1.7%
Tricaine Gel	20ml Stat	Oral	3	2.5%
Normogel	20ml Stat	Oral	5	4.2%
Magnesium Sulphate	4 gm Stat	IV	6	5%
Potassium chloride	20 mEq in 500ml NS Stat	IV	2	1.7%

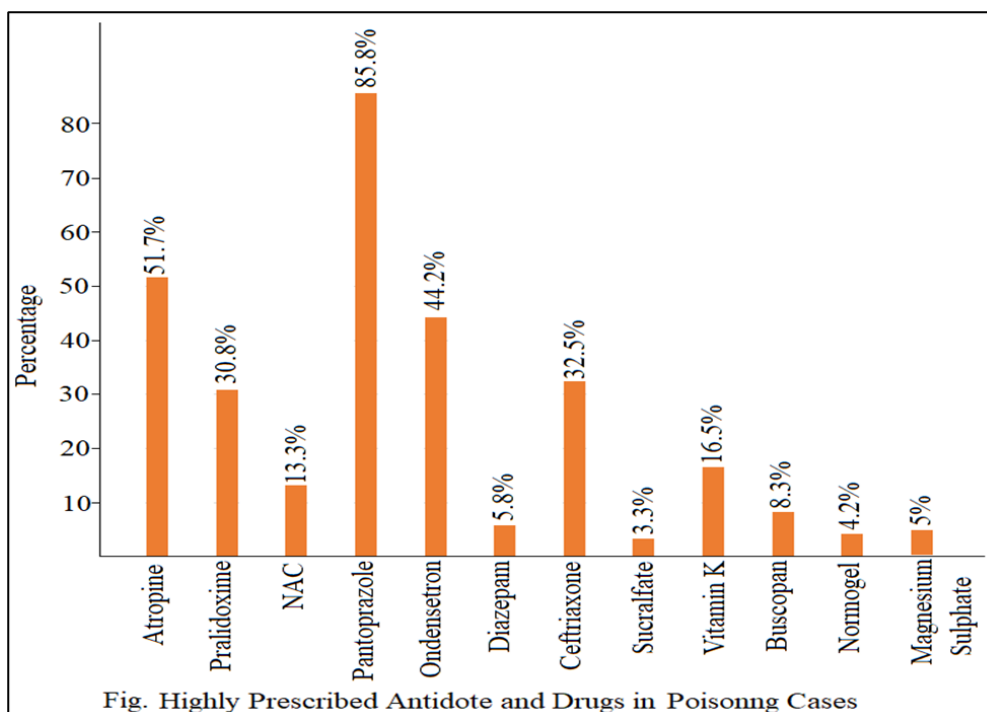


Figure 1 Highly Prescribed Antidote and Drugs in Poisoning Cases

3.11. Outcome and Complications of poisoning:

Out of 120 patients, 97.5% were recovered and 2.5% were died. Pneumonia was found in 1.7% cases whereas other complications were not found on the rest of the sample.

Table 11 Outcome of Poisoning (N=120)

Outcome of Poisoning		
Type of Poisoning	Death	Alive
Organophosphate	3	59
Zinc Phosphide	Zero	16
Aluminium Phosphide	Zero	7
Phenol	Zero	3
Corrosive Acid	Zero	3
Multiple Drug	Zero	4
Carbamazepine	Zero	5
Paracetamol	Zero	9
Nimesulide	Zero	3
Mushroom	Zero	5
Alcohol	Zero	3

4. Discussion

The present study indicates that there were more number of female poisoning cases i.e. 56.7% as compared to males i.e. 43.3% which is comparable to the studies carried out by Kumar et al ⁽²²⁾ in which there were 52.16% female poisoning cases and 47.84% male poisoning cases.

In the age group of 21-30 years, females were 26.7% and males were 15.8%. It was similar to the findings of a study done by Maheswari et al in which females were 26.7% and males were 15.84% in the age group between 21 and 30 years within 101 patients.

Poisoning was more frequently observed in the age group of 21-30 years i.e. 42.5% and least poisoning cases were found in 56-70 and 61-70 years i.e. 4.2%. The mean age of the case was observed to be 30.06 ± 12.82 years. This was similar to the findings of Grzinic et al ⁽²³⁾ where the mean age of poisoned patients was 33.4 ± 16.0 years.

In the present study, we found that poisoning was more prevalent among married people compared to unmarried that may be because of exposure to a greater number of stressful situations and may also be attributed to each individual capacity to handle stress.

Organophosphates i.e. Metacid and Chlorpyrifos were the most common consumed poison i.e. 51.7% followed by Zinc Phosphide i.e. 13.5% and Paracetamol Poisoning i.e. 7.5%. The present study shows similar result with the study conducted by Maharani et al ⁽²⁴⁾ in Tamil Nadu, India in which the 58.66% of patients were consumed organophosphates compounds.

The present study illustrated that 40% of patients were unemployed followed by Labour (26.7%) and Student (25.8%). It was similar to the findings of a study done by Karki et al in which 42.4% of patients were unemployed.

The intentional poisoning was found higher between the age group of 21-30 i.e. 39.2% followed by the age group of 11-20 i.e. 22.7%. About 92.5% of cases in the present study were intentional poisoning which is similar to a study done by Islambulchilar et al ⁽²⁵⁾ and Kar SM et al ⁽²⁶⁾ on which 90% and 95% of the intentional poisoning were found respectively.

Among 120 patients, 36.7% of patients stayed in the hospital for 1-3 days, 52.5% for 4-6 days, 4.2% for 7-9 days, 4.2% for 10-12 days and 2.5% for 13-15 days. The mean hospital stay was 4.44 ± 2.49 days. It was similar to the findings of a study done by M Islambulchilar et al in which mean duration of hospital stay was 3.02 ± 2.8 days.

Gastric Lavage was performed on 91.6% cases along with Antidotes on 65% cases and Gastric Acid Inhibitors on 89.2% cases. Similarly, Anti-Emetics Drugs i.e. 50.8%, Anticonvulsant Drugs i.e. 7.5%, Antibiotics i.e. 34.2%, Ulcer Protective i.e. 3.3%, Vitamins i.e. 16.7% and Miscellaneous Drugs i.e. 26.7% (Buscopan, Amlodipine, Nor – Adrenaline, Furosemide, Tricaine Gel, Normogel, Magnesium Sulphate and Potassium chloride) were used for symptomatic treatment management of poisoning cases. It is similar to the finding according to Aravind et al ⁽²⁷⁾.

In this study, 97.01% patients recovered and 2.5% died. Similar finding was observed in the study done by Nikhita et al ⁽²⁸⁾ where out of 90 patients 1 death was reported. Pneumonia were found in 1.7% cases whereas the complications were not found on the rest of the sample in the present study. Similar finding was found by Maheswari et al on which pneumonia was major complication.

Establishing poisoning information center at regional levels, Counselling and Training of agriculturists on proper techniques of usage and storage of chemicals and fertilizers and educate them on the harmful effects of pesticides can support for prevention of poisoning.

5. Conclusion and limitation of the study

The numbers of female patient were 56.7% which is higher than males 43.3%. The mean age of the study population was found to be 30.06 ± 12.82 years. 58.4% were married and 41.6% were unmarried. The unemployed patients were 40% which also illustrated the cause for poisoning. The second higher poisoning was found on Labour and followed by Student i.e. 25.8% and Farmer i.e. 3.3%. The common agents involved in poisoning were Organophosphate Compounds within 51.7% cases and followed by Zinc Phosphorus Poisoning i.e. 13.3%. It was found that 92.5% of the cases were intentional for suicidal attempt and 7.5% of the cases were accidental. The intentional poisoning was found higher between the age group of 21-30 i.e. 39.2% followed by the age group of 11-20 i.e. 22.7%. The mean hospital stay was 4.44 ± 2.49 Days. Atropine and Pralidoxime were used in Organophosphate Poisoning while N-Acetyl Cysteine was used as antidote on Paracetamol and Mushroom Poisoning. Out of 120 patients, 97.5% were recovered and 2.5% were died. Pneumonia was found in 1.7% cases whereas other complications were not found on the rest of the sample.

This current study included the patient from only Tertiary Care Hospital so generalization of whole country was difficult. Similarly, study was designed and implemented for short period of six months.

Recommendation

- Establishment of strict policies against the sale and availability of agriculture field products and over the counter drugs are an effective way to control OP and drug poisoning.
- Proper counseling about pesticides and poisons should be recommends for the prevention of poisoning.
- Establishing of a poison information center and Clinical Toxicology Unit can be supportive for the better management and prevention of mortality in poisoning cases.
- Pharmacy personnel should provide counseling about antidote and preventive ways from accidental and intentional poisoning.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare that they have no conflict of interest to disclose. We confirm that we have read the journal position on issues involved in ethical publication and affirm that this report is consistent with these guidelines.

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