

Original Article



Profile of Poisoning Cases Attending in the Emergency Department of Khwaja Yunus Ali Medical College and Hospital, Enayetpur, Sirajganj.

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Abstract

Background: Poisoning is a significant global public health problem. In many countries acute poisoning is one of the common scenarios in the emergency department of any general hospitals globally but its pattern may vary in different parts of the world and even may be different regional variations in the same country.

Objective: In this study, our main goal is to evaluate the Profile of Poisoning cases in terms of age, sex, manner of poisoning, types of poison consumed and season-wise attending in the Emergency Department of Khwaja Yunus Ali Medical College & Hospital (KYAMCH), Enayetpur, Sirajganj.

Materials and Methods: This cross-sectional study was carried out at the emergency department of Khwaja Yunus Ali Medical College and Hospital (KYAMCH), Enayetpur, Sirajganj from January'21 to December'21. History of a total 80 poisoning cases was collected by using a pre-designed format from the Emergency register book/ records. Cases who had undergone exposure to poison either by household or agricultural pesticides, stings bite or snake bite, industrial toxins or toxic plants, drug or miscellaneous products were included in the study.

Results: In this study, the majority were in the age group of 16-30 years (65%), 55% were Female and 75% were Muslims, most of the cases were Suicidal (70%) and no Homicidal case was recorded. Besides that, 20% of poisoning cases were due to Barbiturate, followed by Organo-phosphorous compound poisoning were (12.5%) as well as Copper sulphate poisoning, 35% victim came to hospital within 2 hours to 6 hours and 73.75% cases were shifted to General bed, 11.25% cases were Admitted in ICU and 31.25% poisoning cases were found during spring season.

Conclusion: From our study we can say that, suicidal cases and Barbiturate poisoning were commonly seen. Besides that, young and middle-aged female people are mostly vulnerable to poisonous cases.

Key words: Poisoning, Suicide, Sedatives, Barbiturate.

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Introduction

Poison is a substance solid, liquid or gaseous which introduced into the living body or brought into contact with any part thereof, will produce ill health, disease, or death by its constitutional effects, local effects or both.¹ Poisoning is a major public health problem worldwide with significant morbidity and mortality in all age and sex groups. This is more common in low- and middle-income countries due to socio-economic factors, cultural diversity, development of agricultural activities and use of agrochemicals.² Generally children are more vulnera-

ble to accidental poisoning, whereas young adults are more committed to suicidal poisoning attempts.³ WHO estimates that, in 2016, Unintentional poisoning caused 106683 death and loss of 6.3 million years of life (disability-adjusted life years).⁴

Bangladesh is one of the densely populated agricultures based developing country in South east Asia. There is increasing incidence of acute poisoning related death and hospital admission in our country due to vast use of pesticides or insecticides and their easy availability and low cost in the rural area. Few

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studies have reported that pesticides are the commonest chemical agent used for acute poisoning in our country and sleeping pills (sedatives drug) are next to insecticides. Moreover, common poison used for acute poisoning in our country are pesticide or insecticide, sedative drug, copper sulphate, kerosene, Rat killer, Herpic (toilet cleaner), etc.^{5,6} Though it may vary in different parts of the world even may be in different regional variation in same country. Hence, this study was undertaken to evaluate the age, sex, common poison used and pattern of poisoning found in this rural area.

Materials and Methods

This cross-sectional study was carried out at the Emergency Department of Khwaja Yunus Ali Medical College and Hospital (KYAMCH), Enayetpur, Sirajganj from January 2021 to December 2021. Data were collected from the register / records book on cases attended or admitted in the emergency department of the hospital due to Poisoning. This study was approved by the ethical committee of the institute. A total 80 Poisoning cases were studied. Statistical analysis was done by manually. The data were summarized by using percentages and frequency.

Results

Table-I shows age distribution of the patients according to gender where in Male 45% and Female 55%. Majority were belonged to the age group 16-30 years (65%) where 36.25% were female and 28.75% were male, followed by 13.75% cases were in the age group 31-45 years, 12.5% cases were in 1-15 years and 8.75% cases were above 45 years age group.

Table I: Age distribution of the patients according to gender.

Age group (in years)	Male	Female	Total
1 to 15	03 (3.75%)	07(8.75%)	10 (12.50%)
16 to 30	23(28.75%)	29 (36.25%)	52 (65.00%)
31 to 45	05 (6.25%)	06(7.50%)	11 (13.75%)
Above 45	05 (6.25%)	02 (2.50%)	07 (8.75%)
Total cases	36 (45%)	44 (55%)	80 (100%)

Figure-1 shows religion of the patients where majority were Muslim, 60 (75%). The following figure is given below in detail.

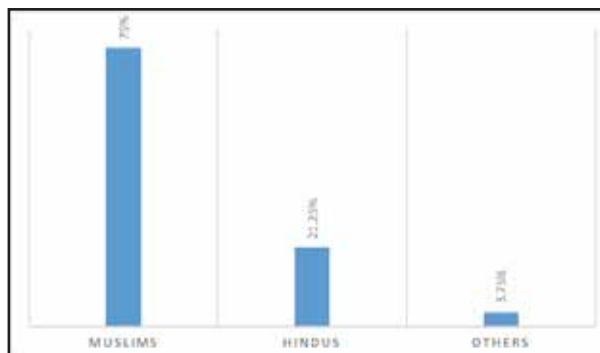


Figure 1: Religion of the patients

Table-II shows Manner of poisoning where Most 56 (70%) cases were suicidal followed by (25%) cases were accidental and (5%) cases were stupefying.

Table II: Manner of poisoning

Manner of poisoning	Frequency	Percentage (%)
Suicidal	56	70
Accidental	20	25
Stupefying	04	05
Total	80	100%

Table-III shows Types of poison where Most (20%) cases were Barbiturate, followed by (12.5%) were Organo-phosphorous compound and Copper sulphate, (8.75%) were Herpic, (10%) were Insect bite, (6.25%) were Food poisoning, (5%) were Rat killer, (2.5%) were ganja and datura.

Table III: Types of poison.

Type of poison	Frequency	Percentage (%)
Barbiturate (Sedatives)	16	20.00
Copper sulphate	10	12.50
Herpic (Carbolic acid derivatives)	07	8.75
Rat killer	04	5.00
Kerosene	03	3.75
Organo -phosphorous compound (OPC)	10	12.50
Insect bite	08	10.00
Alcohol	03	3.75
Ganja	02	2.50
Datura	02	2.50
Food poisoning	05	6.25
Unknown	06	7.50
Others	04	5.00
Total	80	100%

Table-IV shows time interval between incidence and Hospitalization where (35%) got admitted within 2 hours to 6 hours, followed by (26.25%) were admitted within 6 hours to 24 hours.

Table IV: Time interval between Incidence and Hospitalization

Time Interval	Frequency	Percentage (%)
Less than 2 hrs	12	15.00
2 hrs to 6 hrs	28	35.00
6 hrs to 24 hrs	21	26.25
More than 24 hrs	15	18.75
Don't know	04	5.00
Total	80	100%

Figure-2 shows Frequency of season wise distribution of cases where most 25 (31.25%) of the incident was occurred in Spring, followed by 20 (25.0%) were occurred in Autumn and (21.25% & 22.5%) were in Summer & Winter. The following figure is given below in detail.

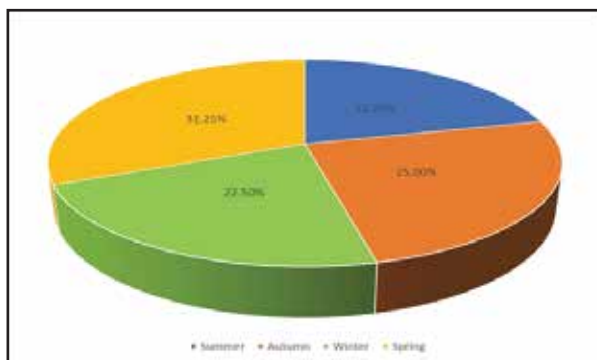


Figure 2: Frequency of season wise distribution of cases.

Table-V shows patient's admission status where (73.75%) cases were shifted to general bed, followed by 10% cases were discharge from emergency room, 11.25% cases were admitted in ICU, 2.5% cases refuse to admit and 2.5% referred to other hospital.

Table V: Patient's admission status.

Admission status	No. of cases	Percentage (%)
Admitted in ICU	09	11.25
Admitted in General bed	59	73.75
Discharge from emergency room	08	10.0
Refuse to admit	02	2.50
Referred	02	2.50
Total	80	100%

Discussion

The extent of poisoning mortality and morbidity in a society reflects the socio-economic as well as the mental state of that society. In Bangladesh and other developing countries especially among the rural regions, pesticide poisoning from suicidal, accidental and occupational is a major problem. In our study, it was found that 44 (55%) of the cases were female and 36 (45%) cases were male. Similar findings are seen in two other studies done by Chaudhary Ritesh et al. and Arathy Radhakrishnan, Jesmi George et al. where Females are predominantly involved by 57.9% and 60%.^{7,8}

According to the study done by Abubakar S, Githa K et al and Subash VK et al found that maximum cases were in the age group of 21 to 30 years (43.6% & 40% respectively) followed by 31 to 40 years (16.4% & 17 % respectively).^{9,10} It was also observed in G.K Acherjya et al studies who reported that the maximum cases were in the age group 20 to 29 years (38.8%) followed by 10 to 19 years (29.2%) age group.¹¹ Whereas in our study we found majority (65%) were in 16 to 30 years of age group and Female were 36.25%, Male were 28.75%. Chaudhary Ritesh et al and P.S Chidananda mentioned in their study that Hindu dominated the population (71.8% & 97.5% respectively).^{7,12} Whereas in our study Muslims were 75% followed by Hindu were 21.25% as Bangladesh is a Muslim dominant country. Three studies done by G.K. Acherjya et al , Chowdhury FR et al and B. Bamathy et al revealed that self-poisoning (committed Suicide) is the most common manner of acute poisoning (97.3%, 68.7% and 91.0% respectively), followed by accidental poisoning (5.0%, 15.9% and 9.0% respectively).In G.K. Acherjya et al and Chowdhury FR et al also found stupefying agent (1.6% and 15.2%) and No Homicidal cases were observed, as no cases was proved to be Homicidal during the time of Data collection.^{11,13,14} Which was consistent with our study where Suicide (self-poisoning) was the most common manner of poisoning (70%) followed by Accidental (25%) and Stupefying (5.0%) and Homicidal cases were not observed during the time of data collection. In addition to our study, common type of poison was found Barbiturate (20%) cases, followed by Organo-phosphorous compound (OPC) and Copper sulfate were 12.5% respectively, Herpic were 8.75%, Insect bite were 10%, Food poisoning were 6.25%, Rat killer were 5%, Ganja and Datura were 2.5% respectively. Which is incoherent with other studies done by G.K. Acherjya et al, Chowdhury FR et al, B. Maharani and N. Vijayakumari where commonest type of poison is Organo-phosphorous compound (66.1%, 27.64% and 58.66% respectively), followed by Sedative (5.3%, 13.35% and 4.0% respectively) and Copper sulphate (6.2%, 14.03% respectively).^{11,13,15}

Yadukul S et al and Acharya K et al shown on their study that time interval between incident and Hospitalization was less than 2 hours 55.3% & 57.6% and Within 2 hours to 6 hours 35.1% & 28.8%.^{16,17} Which is inconsistent with our study, where most of the victim admitted into the hospital within 2 hours to 6 hours 35% and within 6 hours to 24 hours 26.25% and no death case was noticed. However, Khadka SB and Ale SB shown on their study that 50.7% poisoning cases had to be admitted to ICU or medical ward because of their seriousness but 37.3% were discharged from emergency room, and 1.5% patient died as well as referred to other center for better management.¹⁸ Another study done by Deepak Sigdel et al that 92.4% patient improved and were discharged from hospital, 3.8% patient left against medical advice and referred for better management respectively.¹⁹

Whereas, in our study (73.75%) cases were admitted to general bed, followed by admitted in ICU 11.25%, Discharged from emergency room after treatment and observation 10% and 2.5% cases were refused to admit as well as referred to other hospital for better management. Sometimes seasonal variation also alters poisoning statistics. B. Maharani & N. Vijayakumari, Jesslin J et al shows similar studies where most of the cases were received during summer season 36% & 28.1% respectively followed by Rainy season 31.33%, Spring season 21.33% and Winter season 26%.^{15,20} But these two studies completely incoherent with our study where most of the incident was occurred in Spring (31.25%) followed by Autumn, Winter and Summer 25.0%, 22.5% & 21.25% respectively.

Conclusion

In developing country like Bangladesh, poisoning is important public health importance concern hence appropriate intervention program is needed. Young and middle-aged Female people are at greater risk of acute poisoning. Self-poisoning or suicide was the common reason for poisoning and Barbiturate were the common agent seen in our study.

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