Original Article

Journal of Brahmanbaria Medical College
Volume 4 Issue 2 July 2022 ; 6-8

Medico Legal Study on Poisoning Deaths in Sir Salimullah Medical College

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ABSTRACT

Background: Poisoning is a method of unnatural death worldwide. In Bangladesh also it is a common method of unnatural death. The objective of the study was to evaluate the socio demographic study of poisoning deaths among the unnatural death cases.

Materials and methods: This retrospective study was conducted during the period January to December 2020 morgue of Forensic Medicine and Toxicology Department of Sir Salimullah Medical College. Out of total 600 medico legal cases, 221(36.83%) were poisoning deaths during the study period. The purposive sampling technique was used to collect data. The emphasis was given on age, sex, manner of poisoning, marital status and area distribution.

Results: Peak incidence (33.03%) was observed in the age group 21- 30 years, with male predominance 128 (57.92%), female male ratio 1:1.38. Most of the victims were from urban areas (61.08%). Among the study subjects (62.44%) were married. Considering manner of death 215 (97.29%) victims committed suicide by poisoning and rest (2.71%) were due to accidental poisoning.

Conclusion: Poisoning by different chemical compound is the commonest method of committing suicide in Bangladesh due to its easy availability at cheap rate. Different mental stresses, lack of education also responsible for poisoning. So strict the chemical rules, community education practices, decrease mental stresses can reduce poisoning cases.

KEY WORDS

Autopsy; Poisoning; Unnatural death.

INTRODUCTION

Poison is a solid, liquid or gaseous substances, which if introduced in the living body, or brought into contact with any part thereof, will produce ill-health or death, by its constitutional or local effects or both.[1] The word poison is derived from the Latin potus means to drink. The term potus become potio and then poison in old French, a drink that could harm or kill. Poison has local systemic and combined action. In local action poison may act at the site of application for e.g. application of concentrated sulfuric acid to face produces chemical burns. In systemic action poison may act over a given system when taken for e.g. ingestion of aconite causes cardiac toxicity and death. In combined action poison may act local as well they act as a systemic poison for e.g. carbolic acid when applied to skin it act locally as corrosive and when ingested act as systemic poison.[2]

In law , the real difference between a medicine and a poison is the intent with which it is given. If the substance is given with the intention to save life, it is medicine, but if it is given with intention to cause bodily harm , it is poison. The law does not make any difference between murder by means of poisons and murder by any other means.[3] Poisoning is a major Public health problem in most countries due to uses of different chemicals, development of science and multiple mental stresses. Morbidity and mortality vary from country to country. In Rural area of Bangladesh different pesticides are available in house, so people use pesticides for poisoning. In urban area poisoning done by different sedatives and hypnotics.[4]

In recent years, the incidence of poisoning has increased considerably. Most of the cases of poisoning are due to intentional self administration.

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Date of Submitted : 10.03.2022
Date of Accepted : 03.04.2022

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Homicidal and accidental poisoning are also not uncommon. Insecticides, corrosives and vegetable irritants are commonly ingested for suicidal purpose, as they are freely available. Poisoning by hypnotics and tranquilizers is rare. The doctor should be able to diagnose acute poisoning and give appropriate treatment. Usually the diagnosis can be easily arrived at from the history, sign and symptoms. In some cases, laboratory analysis may be required to find out the nature of poison. Doctors have got certain legal duties and responsibilities as well, to perform in cases of poisoning.[5] The objective of the study was to evaluate the socio demographic study of poisoning deaths among the unnatural death cases.

MATERIALS AND METHODS

This is a retrospective study. A total 600 medico legal deaths were examined and autopsy was done in Sir Salimullah Medical College mortuary during the period from January 2020 to December 2020. Out of which 221(36.83%) cases were suspected poisoning death. The purposive sampling technique was used to collect data. Data were collected from hospital records, relatives of victims, police inquest reports and post mortem reports preserved in the Forensic Medicine and Toxicology Department of Sir Salimullah Medical College . All the data were later analyzed using Microsoft Excel 2007, and was expressed as percentage. Necessary consent was taken before commence the study.

RESULTS

A total of 600 medico legal post mortem were performed during this study period. Among these 221(36.83%) cases were suspected poisoning death.

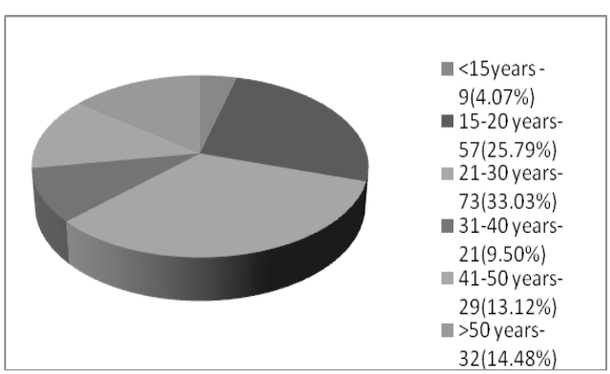

Figure 1 Age distribution of poisoning victims (n=221)

Highest incidence of poisoning was found in 21-30 years age group 73(33.03%) followed by 15- 20 age group of 57(25.79%) (Fig-1).

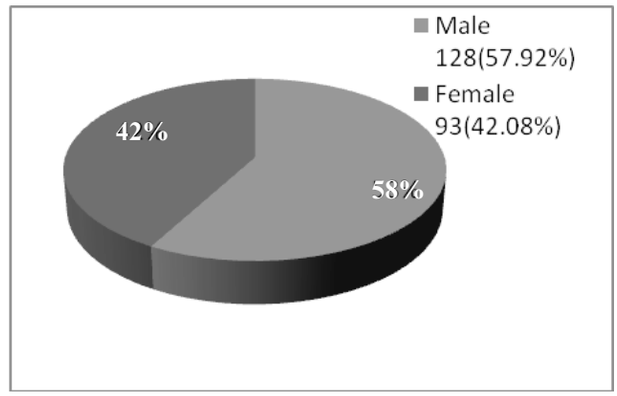

Figure 2 Sex distribution of poisoning victims (n=221)

Among the poisoning deaths in 221 out of 128(57.92%) were male and 93(42.08%) were females with female male ratio being 1: 1.38 (Fig 2).

Among the study subjects, 135(61.08%) were from urban area (Table-I).

Table I Area distribution of poisoning victims & Ratio (n=221)

Area	No. of victim	Percentage	Ratio
Urban	135	61.08%	Rural : Urban 1:1.57
Rural	86	38.92%	
Total	221	100%	

It was observed that 138(62.44%) were married and unmarried 83(37.56%) (Table-II).

Table II Marital status of poisoning victims & Ratio (n=221)

Marital Status	No.of victim	Percentage	Ratio
Married	138	62.44%	Unmarried : Married 1:1.66
Unmarried	83	37.56%	
Total	221	100%	

Suicidal death was the most common manner of poisoning death accounting for 215(97.29%) followed by accidental death were 6(2.71%) (Table-III).

Table III Manner distribution of poisoning victims (n=221)

Manner	No. of victim	Percentage %
Suicidal	215	97.29%
Homicidal	00	00%
Accidental	06	2.71%
Total	221	100%

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DISCUSSION

People chose poisoning due to its availability at cheap rate. The mortality depends on nature, routes, dose of poison consumed, treatment facilities etc. Incidence of poisoning is mostly suicidal. Homicide is rare because every poison has smell and bitter taste. So it is difficult to do homicide by poison. Sometimes poisoning become accidental specially children and workers who work with poison or exposure long time in poison.[6] A total number of 600 medico legal death cases were autopsied in the department of Forensic Medicine & toxicology of Sir Salimullah Medical College, during this study period and the number of deaths by poisoning were 221(36.83%). A pattern similar to this has been reported in the study of other authors.[7] The highest incidence of poisoning death noticed in the age group 21-30 years 73(33.03%), followed by age group of 15-20 years 57(25.79%). Domestic, educational and employment related stress, frustration due to inability to cope with highly competitive society, failure in exams or love affairs scolding by parents are important reasons. A pattern similar to this has been reported in the study of other authors.[8,9] A wide range of both genders was found exposed and victims to poisoning with male predominance with male female ration 1:1.38 was noticed in our study this can be explained on the basis that male are exposed more stress, strain and occupational hazards compare to females. Similar findings were also observed in other studies as well.[10] Married people are more than unmarried. Marital disharmony probably causing stresses and leading to extreme steps like poisoning. The stress and strain carried by married people on their day to day life is more than unmarried people which make them more vulnerable. Similar observation also found in other studies.[11] It was observed in our study that most (61.08%) of the victims of death by poisoning were from urban areas compared to rural areas. It may be in urban area due to diseases, familial dispute, alleged insanity and marital disharmony.[12]

LIMITATION

The study was conducted in morgue which is located in the capital city of Bangladesh. As a result, it may not give a similar socio-demographic findings of poisoning death in rural area of Bangladesh. Moreover sample size in this study, though collected within the period of one year was relatively smaller in number.

CONCLUSION

Poisoning by agrochemical compounds is an important problem in rural area. Proper emphasis should be given for safe use of pesticides. The commonest motive of poisoning was suicidal in urban area due to lack of education, poverty, easily availability at cheap rate of poison and stressful life. So strict the chemical rules, community education practices, decrease mental stresses can reduce poisoning cases.

RECOMMENDATION

Further multicenter research works are recommended with the inclusion of large number of sample size for actual picture.

DISCLOSURE

All the authors declared no competing interest.

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