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Research Article

Data Analysis of 595 Cases Poisoning Cases in Karad- A 3 Years Retrospective Study

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Abstract: Poisons are substances when sufficiently absorbed, cause disturbances to organisms, usually by chemical reaction or other activity on the molecular scale. In this 3 years retrospective study from Jan 2010 to Dec 2012, total 595 poison consumption cases which have been registered in the casualty of Krishna Institute of Medical sciences were analyzed at the Department of Forensic Medicine & Toxicology, KIMS, Karad. During this study several epidemiological observations and their results were considered. In the present study maximum no of cases seen in the age group of 21-30 yrs, male female sex ratio is 1.24: 1, totally 464 cases have improved and 28 cases have expired, the organo-phosphorous poisoning accounts to 82% of the cases followed by kerosene poisoning in 14%. Poisons centres aim to promote the evidence-based, cost-effective management of poisoning and to ensure that unnecessary or ineffective treatment is avoided..
Keywords: Poison, Organo-phosphorus, Kerosene, Poison detection centre.

INTRODUCTION

Poisons are substances that cause disturbances to organisms when a sufficient quantity is absorbed, usually by chemical reaction or other activity on the molecular scale [1]. Poison causes damage or injury to the body due to its exposure by means of ingestion, inhalation or contact [2].

Some poisons are also toxins, usually that refers to naturally produced substances, such as the bacterial proteins that cause tetanus and botulism. The terms "toxic" and "poisonous" are synonymous [1].

Everyday almost 700 people die from poisonings around the world. Poisoning occurs in all regions and countries and affect people in all age and income group [3]. According to WHO (1999) annually more than 3 million poisoning cases with 251,881 deaths occur worldwide. Among them 99% of fatal poisonings cases occur in developing countries, particularly among agricultural workers [4].

Poisoning is the fourth common cause of mortality in India [5]. It is estimated that, every year in India five to six persons per lakh of population die due to acute poisoning [6].

Various factors of poisoning include availability and access to the poison, socioeconomic status of an individual, cultural and religious influences, etc [7].

Intentional application of poison has been used as a method of murder, pest-control, suicide, and execution [1].

MATERIALS AND METHODS

In this 3 years retrospective study from Jan 2010 to Dec 2012, total 595 poison consumption cases which have been registered in the casualty of Krishna Institute of Medical sciences were analyzed at the Department of Forensic Medicine & Toxicology, KIMS, Karad. During this study several epidemiological observations and their results were considered. Consent was obtained from the Institutional Ethics Committee.

RESULTS

Table 1: Age Wise Distribution of Cases

Age (Yrs)	No. of Cases
1-10	04
11-20	66
21-30	155
31-40	135
41-50	86
51-60	69
61-70	55
70-80	15
>80	10
Total	595

Maximum no of cases seen in the age group: 21-30 yrs.

Table 2: Sex Wise Distribution of Cases

Sex	No. of Cases
Male	330
Female	265
Total Cases	595

Sex Ratio- 1.24: 1

Table 3: Outcome of Cases

No. of cases	Improved	Death	DAMA
595	464	28	103

Totally 464 cases have improved and 28 cases have expired.

Table 4: Type of Poison Distribution

Sl. No.		Type of poison	No. of cases
1.	**Household products**	Kerosene	14(%)
		Turpentine oil poisoning	01(%)
		Castor oil poisoning	08(%)
		Colour poisoning	01(%)
		Rat poisoning	02(%)
		Engine oil poisoning	01(%)
		Camphour poisoning	01(%)
		Acid	02
		Zinc phosphide	7
		Disinfectant	2
		phenol	9
2.	**Pharmaceutical products**	Paracetamol poisoning	04(%)
		Carbamezepine poisoning	02(%)
		Cefixime poisoning	01(%)
		Iron poisoning	01(%)
		Alprazolam	2
		Clonazepam	1
		Barbiturate	2
		Colchicines	1
		Unknown drug	3
		Difenoconazole	3
3.	**Agricultural products**	Organophosphorous poisoning	82(%)
		cyPermethrin poisoning	09(%)
		Malathion poisoning	01(%)
		Organo carbamate poisoning	2
		Chlorpyrious	4
		Nitro benzoin	4
		Deltamethrine	1
		Insecticide	1
		Herbicide	2
		Parag	3
		Deltametherine	1
		benzalkoniumchloride	1
4.	**Plant products**	Semicarpus anacardium poisoning	01
		Endosulphan	7
		Weedmass	2
		Cunnatis	1
5.	**Food products**	Food poisoning	09
6.	**Unknown compound**	Unknown compound Poisoning	397
Total			595

The organo-phosphorous poisoning accounts 82% of the cases followed by kerosene poisoning in 14%.

DISCUSSION

In the present study maximum no of cases seen in the age group of 21-30 yrs, male female sex ratio is 1.24: 1, totally 464 cases have improved and 28 cases have expired, the organo-phosphorous poisoning accounts to 82% of the cases followed by kerosene poisoning in 14%.

According to study by KN Ramesha *et al*. out of 136 patients, incidence was more common among males compared to females with a ratio of 3:1, presented in the age group between 20-29 years followed by 12-19 years. By occupation, 44.8% of the cases were manual laborers followed by housewives (13.2%), students (12.5%), farmers and unemployed (10.2%) and businessmen (8.8%). Majority of the poisoning cases (36.0%) were due to organophosphorus compound (OPC) followed by snake bite (16.2%), drugs (11.0%), rat poison (7.3%) and others. Drugs used were phenobarbitone, diazepam, alprazolam, cough syrups and mixture of tablets/capsules. Corrosives included acids and kerosene. Total mortality was found to be 15.4%. Mortality rate was 62.5% among patients with corrosive poisoning followed by a mortality of 26.5% in OPC [8].

In 2008 over 41,000 people died as a result of poisoning, and poisoning became the leading cause of injury death for the first time since at least 1980. During the past three decades, the number of drug poisoning deaths increased sixfold from about 6,100 in 1980 to 36,500 in 2008 [9, 10]. The poisoning death rate nearly tripled over the past 30 years and the percentage of poisoning deaths that were caused by drugs increased from about 60% to about 90% [9].

CONCLUSION

Poisons centres promote the evidence-based, cost-effective management of poisoning and ensure that unnecessary or ineffective treatment is avoided. A poisons centre is a specialized unit that advises on, and assists with, the prevention, diagnosis and management of poisoning and answers enquiries about exposure to poisons [11].

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