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RESEARCH ARTICLE

DEMOGRAPHIC-CLINICAL PROFILE OF POISONING PATIENTS IN A TERTIARY CARE HOSPITAL OF KASHMIR, NORTH INDIA

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ABSTRACT

Introduction: Poisoning is one of the most common medical emergency presenting to the hospitals in developing countries. Kashmir has high incidence of poisoning cases. According to WHO, three million acute poisoning cases with 2, 20,000 deaths occur annually. Of these, 90% of fatal poisoning occurs in developing countries particularly among agricultural workers[1]. It was estimated that almost 50,000 people die every year from toxic exposure in India[2]. The poisoning cases have increased due to the frequent use of pesticides in agriculture and exposure to hazardous chemical compounds as a result of industrialization. **Aim and Objectives:** This prospective observational study was conducted with an Aim to evaluate the demographic and clinical profile of acute poisoning in Kashmir region,
Material and methods: The study was conducted from 1/6/17 to 30/12/17 among patients of acute poisoning brought to emergency department of GMC Srinagar included 330 cases of adults, with acute poisoning due to drugs and chemicals. Cases of Snake bite, insect bite, food poisoning and allergic reaction to drugs were not included in the study. Data regarding age, sex, marital status, occupation, locality, type of poison, route of exposure, and associated co-morbid conditions were collected from the hospital records and documented in the pre-structured proforma. Data were documented and statistically analysed. **Results and Observation:** 330 cases of acute poisoning presented to emergency department over period of six months. Female outnumber male with78.18 % (258 number of cases) while only 72 male patients. Most common poisoning presenting was organo-phosphate poisoning with total number of 58.78% (n 194)followed by rodenticides 10.54% (n 35) > benzodiazepines 7.87% (n26) > alcohol intake 4.84% (n16) > corrosive poisoning 4.57% (n15) > petrochemical compound 2.42% (n8) > Ayurveda compound 1.81%(n6) > carbon monoxide 1.51% (n5) > paracetamol 0.90% (n3), levothyroxine 0.9% (n3) and unknown or miscellaneous 5.4% (n18). On retrospective analysis of data demographic profile of poisoning patients in Kashmir region was as under with highest number of cases were from Pulwama 16.9% (n56) followed by Shopian 15.15% (n 50), Kulgam 13.9%(n 46), Anantnag 12.7% (n 42), Bandipora 10% (n33), Srinagar 8.4% (n 27), Baramulla 8.48% (n27), Ganderbal 5.8% (n17), Kupwara 4.8% (n16)and Budgam 4.2% (n14). **Conclusion;** The most common acute poisoning (60%) presenting was organo-phosphate compounds from districts of south Kashmir due to ready availability of these compounds among apple orchid farmers and lack of education and awareness among farmers about handling of these compounds. Thus, there should be proper education and laws regarding handling and use of these compounds.

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INTRODUCTION

Poison is a substance which if introduced in the body by any route could lead to ill health or death .Poisoning is a significant contributor to morbidity and mortality throughout the world. According to WHO, three million acute poisoning cases with 2, 20,000 deaths occur annually. Of these, 90% of fatal poisoning occurs in developing countries particularly among agricultural workers (Reddy, 2012). It is estimated that more than 50,000 people die every year from toxic exposure in India (Pillay, 2011). Poisoning is more common problem in developing countries than developed countries. Recently, it has increased drastically due to the frequent use of pesticides in agriculture and exposure to hazardous chemical compounds as a result of rapid industrialization in developing countries. Profile of poisoning

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in an area depends upon the access and availability of poison, socio-economic status, cultural and religious influences. The commonest agents of poisoning in India appear to be pesticides, sedatives, chemicals, alcohol, plant toxins, and household poison. Among children the commonest agents causing poisoning included kerosene, household chemicals, drugs, pesticides and garden plants (Pillay, 2011 and Srivastava, 2005) while among the adults, females predominate in all age groups, with an evident preponderance in the second and third decades of life. Acute poisoning in children is almost entirely accidental, while in adults it is mainly suicidal (Reddy, 2012). Mortality and morbidity of poisoning cases varies from country to country depending on the nature of poison and availability of facilities and treatment by qualified doctors (Reddy, 2012). There is no published data from Jammu and Kashmir regarding poisoning but many cases of acute poisoning present to our hospital emergency every day lead to tremendous burden on health care system and high mortality and morbidity.

There is drastic rise in acute poisoning causes due to easy availability of pesticides for apple orchids in Kashmir. Clinical and toxicological diagnostic and treatment facilities are often inadequate due to lack of trained personnel thus requiring strengthening of national capabilities for prevention, diagnosis and treatment. Further the lack of information on the ingredients of various products available make it difficult to plan and develop national poison policies and control program and to provide timely and reliable source of information to doctors and other medical personnel and first responders on the appropriate treatment (Pillay, 2011). Organophosphorus compound poisoning from occupational, accidental and intentional exposure is a global problem, especially in developing countries (Sheu, 1998). Its toxicity is based on inhibition of acetyl cholinesterase, culminating in accumulation of acetylcholine at the synapses (Muhammad, 2003). Initially, majority of patient's presents with florid cholinergic symptomatology (Khurana, 2000). Severe intoxication can lead to bronchorrhea, respiratory depression, fasciculations and altered sensorium (Yelmos, 1992). Quantifying acetylcholine can help in the diagnosis (Vander Hoek, 1998). Hazardous occupational and risky storage of pesticides put safety of millions of people in jeopardy. Irrational frequent sprays in high concentration pose risk to farmers (Eddleston, 2000). Promotion of necessary precautions through education and training the farmers are proving ineffective. Interestingly recognition of toxicity is resulting in paradoxical rise of such cases. Most of the villagers have stocks of these compound sat houses, readily available for deliberate self-poisoning (Hettiarachchi, 1989). Suicidal intake of pesticides is a huge burden on health services and causing extremely higher case fatality rate than accidental poisoning (Ingianna, 1983; Abdollahi, 1997 and Jayaratnam, 1990).

Aims and Objectives

This prospective observational study was conducted with an aim to evaluate the demographic and clinical profile of poisoning in Kashmir region.

MATERIALS AND METHODS

The study was conducted from July 2017 to December 2017 among patients of acute poisoning from Kashmir brought to emergency department of government medical college Srinagar included 330 cases of adult patients with history acute poisoning due to drugs and chemicals. Cases of Snake bite, insect bite, food poisoning, allergic reaction to drugs and chronic poisoning were not included in the study. Patients of poisoning below age of 16 years were not included in study. Data regarding age, sex, marital status, occupation, religion, locality, type of poison, time and month of intake, route of exposure, and outcome of poisoning and associated co-morbid conditions were collected from the hospital records and documented in the pre- structured proforma. Data were documented and statistically analysed.

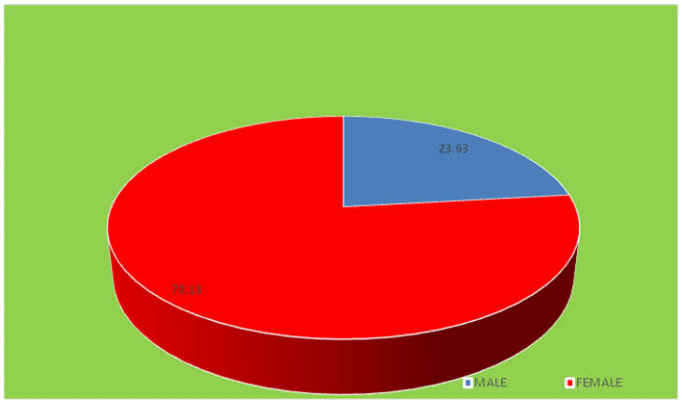
OBSERVATION AND RESULTS

The number of poisoning cases presented to emergency department of government medical college were 330 over period of six months. Female outnumber male with72.12 (238 number of cases) while only 92 male patients 27.87 %.

Table 1. Showing demographic distribution according to gender of poisoning cases

GENDER	NO OF PATIENTS	PERCENTAGE
FEMALE	238	72.12%
MALE	92	27.87 %

Chart no 1showing demographic distribution according to gender of poisoning cases



Distribution of patients among different age group showed that most cases were from age group of from 25 -34 years of age. Age wise distribution of patients is shown in table 2 as under;

Table 2. Showing age wise distribution of poisoning patients

S NO	AGE IN YEARS	NUMBER OF CASES	PERCENTAGE
1	15 -24	46	13.9 %
2	25 -34	171	51.8 %
3	35 -44	63	19.09%
4	45 -54	34	10.3 %
5	55 -64	16	4.84 %

On analysis of data collected from last six month from government medical collage emergency on taking the history of acute poisoning cases, attendants of patients and reviewing the refer's from hospital . Following distribution of poisonous substance was made as under in Table 3.

On analysis of data collected over period of six month demographic distribution of patients according to residential address in medical records is as under in Table 4.

Table 3. Showing distribution of various substance taken as poison by patients

S.No	Nature of poison	No Of Patients	Precentage
1	Organo phosphate compounds	194	58.78 %
2	Rodenticide compounds	35	10.54 %
3	Benzodiazepin compounds	26	7.87 %
4	Corresive compounds	15	4.57 %
5	Petrochemical compounds	8	2.42 %
6	Alcohol compounds	1`6	4.84 %
7	Carbon monoxide	5	1.51 %
8	Parecetamol	3	0.90 %
9	Ayurvadia compounds	6	1.81 %
10	Datura compounds	1	0.30 %
11	Levothyroxine	3	0.90 %
12	Mislisc (unknown) compounds	18	5.46 %
	Total number of patients	330	

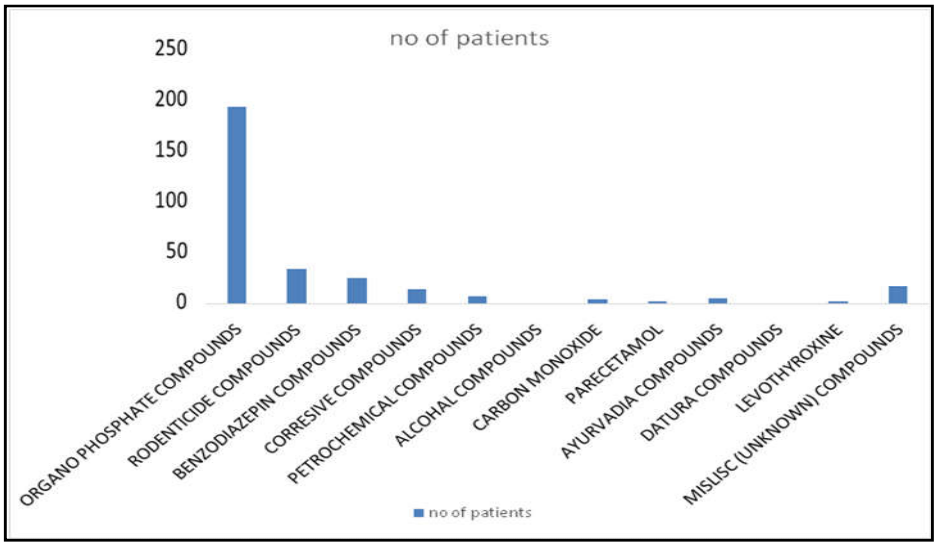


Figure 2. Distribution of patients among the type of poisoning

Table 4. Demographic distribution of poisoning patients in Kashmir division

S. No	District	Number of poisoning patients	Percentage
1	ANANTNAG	42	12.7
2	KULGAM	46	13.9
3	SHOPAIN	50	15.15
4	PULWAMA	56	16.9
5	SRINAGAR	28	8.4
6	BUDGAM	14	4.2
7	BANDIPORE	33	10
8	BARMULLA	28	8.48
9	KUPWARA	16	4.8
10	GANDERBAL	17	5.15

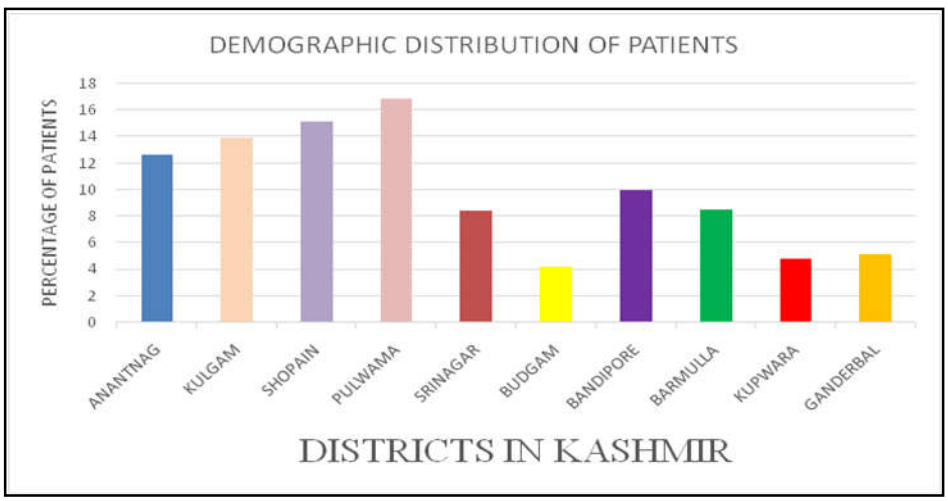


Figure 2. Showing demographic distrubation of poisonig cases

Table 3. District wise distribution of various poisoning

	OP 194	RD 26	BD 26	CR 15	PC 8	AC 16	CM 5	PM 3	AD 6	DT 1	LT 3	UK 18
AG-42	25	4	5	1	1	2	1	0	1	0	0	2
KM-46	29	5	2	2	1	1	1	1	1	1	0	2
SN-50	28	5	6	3	1	1	1	1	1	0	1	2
PA-56	31	6	8	2	1	3	1	1	1	0	1	1
SR-28	17	3	0	1	1	2	1	0	1	0	0	2
BM-14	8	2	0	1	0	1	0	0	1	0	0	1
BA-33	18	5	2	1	2	2	0	0	0	0	1	2
BL-28	20	1	0	2	1	2	0	0	0	0	0	2
KA-16	8	2	2	1	0	1	0	0	0	0	0	2
GL-17	10	2	1	1	0	1	0	0	0	0	0	2

AG= ANANTNAG; KM=KULGAM; SN=SHOPIAN; PA=PULWAMA; SR=SRINAAGAR; BM=BUDGAM; BA=BANDIPORA; BL=BARAMULLA; KA=KUPWARA; GL=GANDERBAL. RD= RODENTICIDE; BD= BENZODIAZIPINE; CR= CORROSIVE; PC= PETROCHEMICAL; AC= ALCOHOL; CM= CARBONMONOXIDE; PM= PARACETAMOL; AD= AYURVEDIC; DT= DATURA; LT= LEVOTHYROXINE; UK= UNKNOWN

Table 4. showing means of exposure

S. NO	Route of Exposure	No. of Patients	Percentage
1	Ingestion	291	88.18
2	Inhalation	24	7.27
3	Topical	15	4.5
4	Inhalation + topical	7	2.12

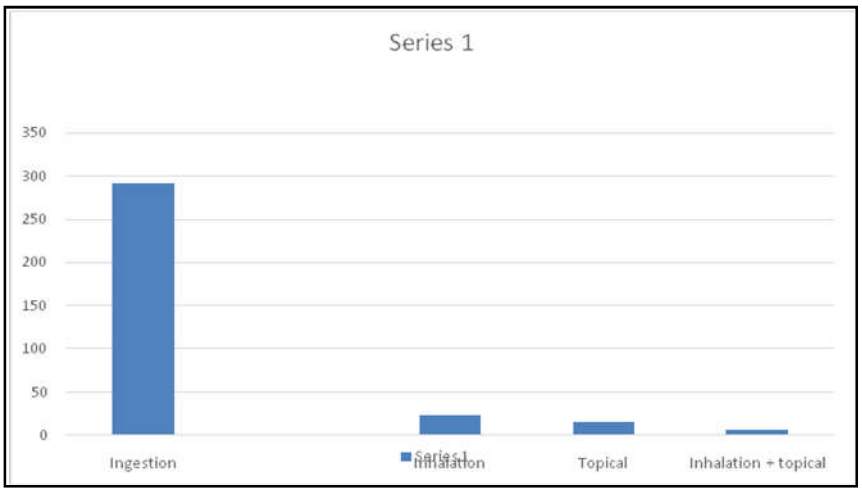


Figure 3. Showing means of exposure

DISCUSSION

B. Maharani *et al*. (Maharani, 2013) conducted a same similar retrospective study at Salem, Tamil Nadu in a tertiary care hospital. 150 cases of acute poisoning in adults due to drugs and chemicals were included in study. In all the cases the route of exposure was oral but in our study only 88.1% were oral injected with 7.27 inhaled and topical 4.5%. Males (92 cases) outnumbered females (58 cases) B. Maharani *et al*. (2013) study but in our study female out number with 72.12%(238) out of total cases of 330 and Peak occurrence was in the age group of 21-30 years (47 cases) in B. Maharani *et al*[14]^{A} study similar to our study with 171 cases (25- 34) and Organophosphorus was the commonest agent (58.66%)as in our study with 58.78% (194 cases). M. ShoaibZaheer, M. Aslam *et al*. (ShoaibZaheer, 2009), conducted a study among the cases admitted with acute poisoning in medical wards of Jawaharlal Nehru Medical College and Hospital, Aligarh, over a period of one year. 104 cases were taken Maximum number of cases (n=59) were recorded in the 20-29. Year's age group. The frequency declined as the age advanced (P<0.01) similar to our study in tertiary care hospital in Kashmir.

Organophosphates and aluminium phosphide constituted the majority of cases in rural areas (63%), while zinc phosphide, aluminium phosphide, sedatives and delirients accounted

For majority of the urban cases (80%) but in our study organophosphate was most common agent with 58.66 %.there were 62 males (59.6%) and 42 females (40.4%) in M. Shoaib Zaheer *et al*. (ShoaibZaheer, 2009). Study but in our study only 27.81% (92) male. BibhutiBhusana Panda *et al*. (BibhutiBhusana Panda, 2015). Study conducted at a tertiary care teaching hospital at Bhubaneswar, Odisha, India Most of the poisoning cases are aged between 20 to 30 years similar to our study. Muhammad Imran Sulima*et al*.[17].conducted a study at department of Medicine, Bahawal Victoria Hospital, Bahawalpur Pakistan Mean age was 22.1 years in the 111 suicidal cases (77.62%) and 78 (70.27%) of them were less than 24 years.

REFERENCES

Abdollahi M, Jalali N, Sabzevari O, Hoseini R, Ghanea T. 1997. A retrospective study of poisoning in Tehran. *ClinToxicol.,* 35:387–93.

Maharani, B. and N. Vijayakumari, 2013. Profile of poisoning cases in a Tertiary care Hospital, Tamil Nadu, India,

Journal of Applied Pharmaceutical Science., Vol. 3 (01), pp. 091-094, January, 2013

Bibhuti Bhusana Panda, Manoj Kumar Hansda, Kunal Mishra, PusparajSamantsingharStudy of Poisoning Cases in an Indian Tertiary Care Teaching Hospital, J Indian Acad Forensic Med. April-June 2015, Vol. 37, No. 2 ISSN 0971-0973

Eddleston. M. 2000. Patterns and problems of deliberateself-poisoning in the developing world. *Q J Med*., 93: 715-31.

Hettiarachchi J, Kodithuwakku GCS. Pattern of poisoning in rural Sri Lanka. *Int J Epidemiol.,* 1989;18:418–22

Ingianna J, Herrero R, Albertazzi C. 1983. Estudiocomparativo de casos de in toxicacionesporinsecticidasorganofos for adosendiferentes zonas deCosta Rica. *RevistaBiol Trop* 31:139–44.

Jayaratnam, J. 1990. Acute pesticide poisoning: a major global health problem. World Healthstate Q., 43:13

JPIMS 2003; 14 (2): 784- 9

Khurana D, Prabhakar S. 2000. Organophosphorus intoxication. *Arch Neurol.,* 57: 600-2.

Shoaib Zaheer, M. Aslam, M.Vibhanshu Gupta *et al*, 2009. Profile of poisoning cases at a north indian tertiary care hospital Health and Population: Perspectives and IssuesVol. 32 (4), 176.

Muhammad Imran Sulima*net al*. The analysis of organophosphate poisoning cases treated at bahawal Victoria hospital, Bahawalpur in 2000-2003 Pak J Med Sci July - September 2006 Vol. 22 No. 3 244-249

Muhammad NK, Shamim H. Deliberate self-harm dueto organophosphates.

Pillay VV.Textbook of Forensic Medicine and Toxicology. 16th ed. India: Paras, 2011, P- 402-404.

Reddy KSN.The Essentials of Forensic Medicine and Toxicology. 31st ed. India: K Suguna Devi, 2012, P- 467.

Sheu JJ, Wang JD, Wu YK. Determinants of lethalityfrom suicidal pesticide poisoning in metropolitanHsinChu Vet Hum Toxicol. 1998; 40(6): 332-6.

Srivastava A, Peshin SS *et al*. An Epidemiological Study of Poisoning cases reported to the National Poisons Information Centre, AIIMS, New Delhi. Human and Experimental Toxicology 2005; 24(6):279-285.

Vander Hoek W, Konradsen F, AthukoralaK,Wanigadewa T. Pesticide poisoning: a majorhealth problem in Sri Lanka. SocSci Med. 1998; 46:495-504.

Yelmos F, Diez F, Martin C, Blanco JL, Garcia MJ,Lardelli A, Pena JF. Acute organophosphate insecticide poisonings in the province of Almeria: A studyof 187 cases. *Med Clin (Barc)* 1992; 98(18): 681-4.

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