

Profile of Fatal & Non-Fatal Poisoning in and Around Bijapur

Bhuyyar Chandrashekhar*, Shivanand Kadagoudar**, Anand Mugadlimath***

Abstract

Introduction: Acute poisoning is one of the most common causes of morbidity & mortality worldwide. As per WHO around 3 million poisoning cases with 220,000 deaths occur annually. Agriculture pesticides are used in Asian region for self-poisoning particularly in rural areas with high fatality and majority of pesticide exposure are seen more in middle and low income countries. **Methodology:** Study was conducted at Shri B M Patil Medical College, Hospital and Research Centre, Bijapur, Karnataka from 1st Jan 2013 to 31st Dec 2013. Data was collected from all the poisoning cases admitted & treated in the emergency department and medical ward. **Results:** In the present study total 494 cases included, maximum numbers of cases were due to poisoning by insecticides (41.3%) followed by snake bites (16%) & Lice powder contributed (11.7%). Maximum cases were found in the rainy season (37.4%). Suicidal poisoning was most common (70.6%) as compared other modes. Oral route was most commonly found for consumption of poison (72.5%). 61% of victims were Literates & 39% illiterates. Occupation wise, house wives contributed most (27.7%), followed by farmers (26.5). Married persons (53%) were found more than unmarried (47%). Hindus (87.9%) were more than other religion. Rural people (81.4%) were more as compared to urban. **Conclusions:** From the above study we can conclude that sociodemographic features of fatal and non-fatal poisoning in Bijapur- Maximum numbers of cases were due to poisoning by insecticides, Suicidal manner of poisoning was commonest, males were more affected than females, House wives suffered more, maximum cases were in rainy season.

Keywords: Poisoning; Insecticides; Sociodemographic Features; Manner of Death; Non-Fatal Poisoning.

Introduction

Poison is defined as any substance that causes a harmful effect when administered, either by accident or designed to a living organism [1]. Its dose related adverse effects caused due to exposures to chemicals, drugs or other xenobiotic, are responsible for morbidity and mortality which vary from country to country [2,3]. Intentional poisoning worldwide is increasing day by day due to change in the life style

and social behavior which are responsible for mortality and morbidity. Distress due to loss in the business, failure in love or differences with the intimate partner or relative, emotional disturbances, poverty, job security and chronic diseases are the common reasons for intentional poisoning. Acute pesticide poisoning is one of the most common causes of intentional deaths worldwide. The various bites and stings are responsible for accidental poisoning [4,5].

As per World Health Organization publication in 1990, around 3 million poisoning cases with 220,000 deaths occur annually. Recently some review articles reported that the number of intoxications with organophosphate pesticides was 3 million per year, and the number of deaths and casualties are 300,000 per year worldwide [4,6].

Agriculture pesticides are used in Asian region for self-poisoning particularly in rural areas with a fatality range of 10-20%. Majority of pesticide exposure are seen more in middle and low income

Authors Affiliation: *Assistant Professor, Dept of Forensic Medicine, BLDEU's Shri B M Patil Medical College, Hospital and Research Centre, Bijapur, Karnataka. **Assistant Professor, ***Associate Professor, Dept of Forensic Medicine, S.Nijalingappa Medical College, Bagalkot, Karnataka.

Reprints Requests: Anand Mugadlimath, Associate Professor, Dept of Forensic Medicine, S. Nijalingappa Medical College, Bagalkot - 587101 Karnataka.
E-mail: dranandmdfm@gmail.com

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countries due to increased use/accessibility of agrochemicals in agricultural sector [5]. There are no published studies regarding the trends of poisoning in and around Bijapur, hence this study is undertaken to throw light upon as to profile of poisoning cases in this region.

Methodology

Prospective study is to be conducted at Shri. B. M. Patil Medical College, Hospital and Research Centre, Bijapur, Karnataka from 1st Jan 2013 to 31st Dec 2013. Data was collected from all the poisoning cases admitted & treated in the emergency department and medical ward. Information was collected on a proforma, data was compiled and statistically analyzed.

Inclusion Criteria

All cases of acute poisoning reported to Shri. B. M. Patil Medical College, Hospital and Research Centre, Bijapur, Karnataka from 1st Jan 2013 to 31st Dec 2013.

Exclusion Criteria

All snake bite cases, scorpion sting, bees sting cases and where the diagnosis of poisoning was doubtful-(unconscious patient without proper history and signs of poisoning).

The final outcome in any case of poisoning will either be survival or death. So the material for this present study included two groups, they were, a group comprising of poisoning cases that were hospitalized and discharged and the other group comprising of poisoning cases that died in the hospital (both in casualty and wards) which were later subjected to medico legal autopsy in the same hospital. Ethical clearance for the present study was obtained from the Ethical Committee of the Medical College, Bijapur.

Results

In the present study total 494 cases were examined and treated during the study period at Shri. B. M. Patil Medical College, Hospital and Research Centre, Bijapur.

Table 1: Distribution of cases in relation to type of poison

Type of Poison	Frequency	Percent
Insecticides	204	41.30%
Snake bite	79	16.00%
Lice powder	58	11.70%
Unknown compound	48	9.70%
Medicinal tablets	32	6.50%
Scorpion Sting	24	4.90%
Unknown bites	20	4.00%
Kerosene	19	3.80%
Alcohol	7	1.40%
Good knight liquid	2	0.40%
Domex	1	0.20%
Total	494	100.00%

Out of 494 cases, maximum numbers of cases were due to poisoning by insecticides (41.3%) followed by snake bites (16%). Lice powder contributed (11.7%), medicinal tablets (6.5%), scorpion sting (4.9%),

unknown bites(4.0%), alcohols (1.4%), good knight liquid (0.4%), and least one found was domex toilet cleaner (0.2%). Altogether animal bites(snake bite, scorpion sting, unknown bites) contributed (24.9%).

Table 2: Season wise distribution of cases

Season	Frequency	Percent
Winter	161	32.6 %
Summer	148	30.0%
Rainy	185	37.4%

Table 3: Distribution of cases in relation to manner of poisoning:

Manner	Frequency	Percent
Suicidal	349	70.60%
Accidental	145	29.40%
Total	494	100.00%

Out of 494 cases, maximum cases were found in the rainy season (37.4%), winter contributed (32.6%) and summer (30.0%).

Out of 494 cases, suicidal poisoning was maximum (70.6%) as compared to accidental poisoning (29.4%). No homicidal poisoning was reported in the study.

Out of 494 cases, oral route was most commonly

found for consumption of poison (72.5%) followed by animal bites (24.9%) and inhalational route (2.6%).

Out of 494 cases, literates (61%) contributed more than illiterates (39%).

Out of 494 cases, house wives contributed most (27.7%), followed by farmers (26.5) and students (24.7%). The least common found occupation was government job holders.

Table 4: Distribution of cases in relation to mode:

Mode	Frequency	Percent
Oral	358	72.50%
Bites	123	24.90%
Inhalational	13	2.60%
Total	494	100.00%

Table 5: Distribution of cases in relation to literacy:

Literacy	Frequency	Percent
Illiterates	193	39.10%
Literates	301	60.90%

Table 6: Distribution of cases in relation to occupation:

Occupation	Frequency	Percent
Farmers	131	26.50%
Govt job holders	25	5.10%
House wives	137	27.70%
Not working	39	7.90%
Private job	40	8.10%
Students	122	24.70%
Total	494	100.00%

Table 7: Distribution of cases in relation to marital status

Marital status	Frequency	Percent
Married	261	52.80%
Unmarried	233	47.20%
Total	494	100.00%

Table 8: Distribution of cases in relation to religion:

Religion	Frequency	Percent
Hindu	434	87.9%
Muslim	60	12.1%
Total	494	100.0%

Table 9: Distribution of cases in relation to habitat:

Habitat	Frequency	Percent
Rural	402	81.4%
Urban	92	18.6%
Total	494	100.0%

Out of 494 cases, married persons (53%) were found more than unmarried (47%).

Out of 494 cases, Hindus (87.9%) were more than the Muslims (12.1%). Sikh and Buddha religion case was not reported in the study.

Out of 494 cases, rural people (81.4%) contributed more as compared to urban people (18.6%).

Discussion

The findings of the present study are similar to study conducted by government medical college Jammu where majority of (34.5%) poisoning cases were due to insecticides [7], all India institutes of medical sciences Delhi it was (25.7%) [8], M.P. Shah

Medical College, Jamnagar it was (64.39%) [9], In a study conducted at Jinnah post-graduate medical Centre it was (39.7%) [10], study at office of the Judicial Medical Officer, Colombo it was (81%) [11], study conducted in a southern district of Sri Lanka it was (84.4%) [12], a study conducted at University Medical Unit in central Sri Lanka it was (65.3%) [13], a study conducted at the Department of Forensic Medicine and Toxicology, ShriVasantaraoNaik Government Medical College, Yavatmal it was (55.4%) [14].

The findings of the present study are in contrast with study conducted by Nehru hospital PIME and research Centre, Chandigarh where barbiturate poisoning was dominant (19.33%) [15]. It is also in contrast with study conducted by B. K. Hospital Faridabad, where aluminum phosphides were most dominant poisoning (70.73%) [16], study conducted at khonkaen hospital, Thailand where animal poison was commonest (28.2%) [17].

Rohtaak medical college, where aluminum phosphides were most dominant poisoning (67.7%) [18], the emergency department of S.N. Hospital, Agra where celphos was most common [19], department of Forensic Medicine and Toxicology at Government Medical College, Chandigarh where aluminium phosphide was most common (54.35%) [20]. Leeds department of forensic medicine, revealed with 90% of males preferring carbon monoxide and 70% of females preferring barbiturates [21] and many other studies had the result in contrast with our study [22,23].

In our study the most common age group of poisoning was between 21-30 yrs(72.5%). The findings of the present study are similar to study conducted by Nehru hospital PIME and research Centre, Chandigarh [15], Similar to study conducted at government medical college Jammu [7], A study was conducted at Berhampur, Orissa it was (40.5%) [24], Kasturba Hospital, Manipal, Karnataka [25] in a study conducted at Civil Hospital, Belgaum it was (40%) [26].

In our study majority of patients were males (55.7%). The findings of the present study are similar to study conducted by Nehru hospital PIME and research Centre, Chandigarh (67.9%) [15], similar to government medical college Jammu(67.23%) [7], B. K. Hospital, Faridabad where male to female ratio was (3:1) [21], Rohtaak medical college, where male to female ratio was (2:1) [18], all india institutes of medical sciences where male to female ratio was (1.6 to 1)8, The emergency department of S.N. Hospital, Agra it was (70%) [19], department of Forensic Medicine and Toxicology at Government Medical

College, Chandigarh where male to female ratio was(2.5:1) [20], in a study conducted at Rohtak during the year 1995 it was (68.62%) [27], in a study was conducted at Berhampur, Orissa it was (53.3%) [24], Government Wenlock Hospital, Mangalore it was (69.12%) [28], Kasturba Hospital, Manipal, Karnataka (75.1%) [25] and many other studies had the result of favor of our study with varying percentages [29,11,26,14].

The findings of the present study are in contrast with study conducted by khonkaen hospital, Thailand where male to female ratio was (1:1.2) [17], rural hospital, study conducted at Leeds department of forensic medicine females outnumbered males [21].

Though no appreciable difference was found in seasonal variation, in our study it was found that in rainy season maximum cases (37.40%) as compared to winter (32.60%) and summer (30%). The findings of our study are in contrast to study conducted at Berhampur; Orissa maximum cases were seen in summer (31.7%) [24].

In our study out of 494 cases, rural people (81.4%) contributed more as compared to urban people (18.6%). The findings of our study are similar to a study conducted at the Department of Forensic Medicine and Toxicology, ShriVasantaraoNaik Government Medical College, Yavatmal, where rural cases were dominant(83%) [14].

In our study out of 494 poisoning cases 20 deaths have occurred. Mortality rate remains 4%. The findings of our study does not correlate with most of the studies like Study conducted by Nehru hospital PIME and research Centre, Chandigarh showed mortality rate of (17.30%) [15], study conducted in Rohtak medical College showed mortality rate of (35.82%) [18], the emergency department of S.N. Hospital, Agra showed mortality rate of (11%) [19], a study was conducted at Berhampur, Orissashowed mortality rate of (20%) [24], study conducted at Civil Hospital, Belgaum showed mortality rate of (30.69%) [26], study conducted at University Medical Unit in central Sri Lanka showed mortality of (16%) [13].

Out of 494 cases, house wives contributed most (27.7%), followed by farmers (26.5%) and students (24.7%). No appreciable difference was found between house wives, farmers and students. In this region insecticides are equally accessible house wives as to farmers. The reason being most of families stay in the farm house where house wives too work in the farm. That's why insecticides remain first in both house wives and farmers. In contrast to our

study, study conducted at Civil Hospital, Belgaum showed agriculturists dominated among all the occupation (63.6%) [26].

Conclusion

From the above study we can conclude that sociodemographic features of poisoning in Bijapur-Maximum numbers of cases were due to poisoning by insecticides, Suicidal manner of poisoning was commonest, Males were more affected than females, House wives suffered more, maximum cases were in rainy season.

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