

Study poisoning cases at Al-Ameen Medical College, Vijayapur, Karnataka

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Abstract

Introduction: A retrospective analysis of all poisoning cases admitted to Al-Ameen Medical College, Vijayapura, Karnataka from Jan 2015 to Dec 2015 was done to study the pattern of poisoning. Acute poisoning is one of the important causes of morbidity and mortality in developing countries due to easy availability of poisonous substances and its low cost. So it was important to know the pattern of poisoning at to Al-Ameen Medical College, Vijayapura.

Material & methods: A retrospective analysis of all poisoning cases admitted to Al-Ameen Medical College, Vijayapura, Karnataka from Jan 2015 to Dec 2015 was done to study the pattern of poisoning. Objective of the study was to know the socio-demographic profile of the poisoning cases. Data collected using a pretested proforma and the values were analyzed and presented.

Results: A total of 211 patients (male: 131, female: 80) studied. The age of the patients varied from 9-71 years. In more than 25 years of age, there was male predominance in all the age group. The types of poisons were insecticides like Insecticides, Alcohol, Kerosene, Rat poison, Phenol, Lice Powder, Turpentine, Glass powder and a large proportion included Unknown poison. The hospital stay of the admitted patients with poisoning ranged from 01 to 58 days. The mean hospital stay was 6 days. In the study group mortality was 3%.

Conclusion: Intentional poisoning among young adults is a common public health hazardous. The commonest poisoning includes organophosphorous, halogenated insecticides, and petroleum products.

Keywords: Poisoning, organophosphorous compounds, Sociodemographic factors

1. Introduction

Massive use of pesticides in agriculture, rapid industrialization and exposure to hazardous chemical products, introduction of newer range of drugs for treatment, increased alcohol consumption, unhealthy dietary habits has widened the spectrum of toxic products to which people have been exposed as compared with the early days.[1-8] Knowingly or unknowingly millions of people are exposed to danger by hazardous occupational practices and unsafe storage[7,8] of toxic chemicals products in their day to day life. Lack of specialized toxicological services in developing countries like India has further contributed to the higher rate morbidity and mortality.[1-5] Easy availability and low cost of hazardous chemicals plays a major role in both accidental and suicidal poisoning in developing countries like India, Srilanka, South Africa etc.[3,4,7-10] Most of the fatality rate is of intentional poisoning by organophosphorous (OP) compound which has been reported from southern and central India.[11-13] According to WHO (1999) more than three million poisoning cases has been reported out of which

251,881 deaths occur worldwide annually, of which, 99% of fatal poisoning occur in developing countries, predominantly among farmers due to various kinds of poisoning, including poisonous toxins from natural products are handled.[13,14] Therefore, an alarm for early diagnosis, treatment and prevention is crucial in reducing the burden of poisoning related injury in any country.

A comparative data revealed that in developed countries, the mortality rate due to poisoning is only 1% to 2%, but in developing countries like India it varies between 15% to 30% [15] and is the fourth most common cause of mortality especially in rural India. [15,16] It is very difficult to draw a report to say which kind of poisoning is more frequent, has the nature of poisoning varies from one region another depending upon the poison availability and the knowledge and local population regarding the properties of poisons.[5] So this study has been aimed to determine the various parameters of poisoning such as type of poisoning involved, the most vulnerable age group and their marital status with religions.

2. Methodology

The present retrospective study was conducted by department of Medicine, Al-Ameen Medical College, Vijayapur, Karnataka, from Jan 2015 to Dec 2016. Data was collected from all the poisoning cases admitted that were admitted & treated at Al-Ameen Medical College, Vijayapur. Information was collected into a proforma on the type of poison consumed, incidence on age and sex, marital status, religions, hospitalization days were noted from records for each case and analyzed.

3. Results

In our study there were total of 211 patients brought to Al-Ameen Medical College, Vijayapur, of whom the data were collected during the 12 months study period, male patients admitted to hospital due to poisoning was 131 (62%) and female were 80 (38%) with the male: female ratio being 1.2:1. Majority (45%) of victims with suspected consumption of poison was in between 21 to 30, followed by the age group between 11 to 20 27%.

Out of the 211 patients who admitted for poisoning (65%) patients were married and (35%) were unmarried. The hospital stay of the admitted patients with poisoning ranged from 01 to 58 days and the mean hospital stay was 6 days.

During the study period 7 (3%) of the patients had mortality due to poisoning. The data retrieved from the case record revealed 200 [94%] with poisoning admitted to the hospital were Hindus followed by Muslims 8 [3%].

Most common poison used for poisoning were organophosphorous compounds 120 cases (57%), in 62 (29%) cases the type of poison was not known. In our study 90 % (189) of cases were from rural domicile and only 10 % (22) from urban population. In season wise distribution, highest cases were recorded in the month of March & April (11.3% & 18.4%). It clearly indicates that the poisonings is the most leading unnatural cause of rural burden of the morbidity and mortality in India.

Table 1: Sex wise distribution of cases

Total	Male	Female
211	131 [62]	80 [38]

Table 2: Age wise distribution of cases

Age	No of cases	Percentage %
< 10	4	1.8
11 to 20	57	27
21 to 30	95	45
31 to 40	35	16
41 to 50	11	5.
51-to 60	6	2
>60	3	1.4

Table 3: Religion wise distribution of cases

Religion	No (%)
Hindu	200 [94.7%]
Muslim	8 [3 %]
Others	3 [1.4 %]
Total	211 [100 %]

Table 4: Domicile wise distribution of cases

Domicile	No (%)
Rural	189 [90 %]
Urban	22 [10 %]
Total	211 [100 %]

Table 5: Survival of the victims following consumption

Fate	No (%)
Survived	204 [97 %]
Died	7- [3%]
Total	211 [100 %]

Table 6: Distribution of cases according to type of poison consumed

Type of poison as per the history	No of cases	% to total cases
Insecticides	120	57
Unknown poison	62	29
Alcohol	16	8
Rat poison	2	0.9
Kerosine	4	2
Phenol	4	2
Glass powder	2	09
Mosquito repellent	1	0.45
Total	211	100

Table 7: Distribution of cases according to season

Month	No of cases	Percentage
January	18	8
February	8	3.7
March	24	11.3
April	39	18.4
May	16	7.6
June	14	7.93
July	25	6.63
August	14	6.6
September	15	7.1
October	19	9
November	10	4.7
December	9	4.2
Total	211	100

4. Discussion

Poisoning is a major public health problem in Vijayapur district, with thousands of poisonings and hundreds of deaths every year cases coming to tertiary centre represent just tip of the iceberg. Keeping this background in mind, retrospective analysis of all poisoning cases admitted to Al-Ameen Medical College, Vijayapura, Karnataka from Jan 2015 to Dec 2015 was done to study the pattern of poisoning reported. Suicide is one of the oldest and considered the best trends of sacrificing their life by consuming different poisonous substances which are easily accessible to them compared other methods. The morbidity, mortality in any case of acute poisoning depends upon number of factors such as nature of poison dose consumed, level of available medical facilities and time interval between intake of poison and provision of medical help.

The sex incidence affected with poisoning was more with male which outnumbered the female and this tallies with the other studies.[4,8,15-17] In our study there is a male predominance (52.64%). The high incidence may be because males are more exposed to stress, strain and occupational hazards compared to females.[2,11,18,19]

In this study the most common age group involved was between 21-30 years followed by the age group between 11- 20 years. Thus, adolescent and young adults are at more risk compared to other groups. Similar observations were reported by studies in India and abroad.[4, 8, 17,20-22]

The hospital stay of the admitted patients with poisoning ranged from 01 to 58 days. The mean hospital stay was 6 days, similar findings were also observed in other studies as well.[20]

In the present study 120 cases (57%) were due to insecticidal organophosphorous poisons, which were the most commonly responsible agents for toxicity in poisoning cases. Similar types of findings were noted by the authors.[11, 23, 24] We observed that married person more often become victim of poisoning which was found similar with other studies.[4,15, 25] The reason of fact could be that the amount of stress carried by the married people on their day to day life is more than the single males or females which makes them more vulnerable.

Patients who were admitted due to poisoning of which, 200 (94%) patients were Hindus followed by Muslims in 8 (3%). This may be due to religious beliefs and low percent of muslims in the rural population, served by Al-Ameen Medical College, Vijayapur, Karnataka. In our study majorly of cases were from rural domicile similar findings were seen by other Indian studies.[2-6] In season wise distribution, highest cases were recorded in the month of March & April this may be due to easy availability of insecticides during the harvesting season and announcement of exam results during these months.

5. Conclusion

There is an urgent need to regulate the import, manufacture, sale, transport, distribution and use of pesticides with a view to prevent risk to human beings. Enlightenment through educating young people about harmful effects of drugs, promoting poison information centres, introducing separate toxicological units in the hospitals and upgrading the peripheral health centres to manage cases of poisoning in emergency could possible help us to bring down the morbidity and mortality rate.

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