

**STUDY OF SOCIO-DEMOGRAPHIC PROFILE OF POISONING CASES AT
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ABSTRACT

A retrospective analysis of all poisoning cases admitted to CHC Kotkhai from Jan 2018 to Dec 2020 was done to study the pattern of poisoning reported. Acute poisoning is a common medical emergency and one of the important causes of morbidity and mortality in developing countries due to easy availability of poisonous substances and its low cost. Objective of the study was to evaluate the pattern of poisoning at a primary care hospital at Shimla, and to study the socio-demographic profile of the same. Data collected using a pretested proforma and the values were analyzed and presented.

KEYWORDS: Poisoning, organophosphorous compounds, kerosene.**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.^[1,2,3,4,5,6] Knowingly or unknowingly millions of people are exposed to danger by hazardous occupational practices and unsafe storage.^[3,6] 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.^[1,4,2] 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.^[1,3,4,6,7,8] Most of the fatality rate is of intentional poisoning by organophosphorous (OP).^[9,10,11] According to WHO (1999) more than three million poisoning cases has been reported out of which 251,881 deaths occur world wide 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.^[11,12] 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% and is the fourth most common cause of mortality especially in rural India.^[12,14] 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.

METHODOLOGY

The present retrospective study was conducted by department of Medicine and Pediatrics from Jan 2018 to Dec 2020. Data was collected from all the poisoning cases presenting at CHC kotkhai. Information was collected into a proforma on the type of poison consumed, incidence on age and sex, marital status, hospitalization days were noted from records for each case and analyzed.

RESULTS

In our study there were total of 100 patients brought to CHC Kotkhai, of whom the data were collected during the study due to suspected poisoning. Total (6.67%) cases were due to poisoning. Total number of male patients admitted to hospital due to poisoning was 52 and female were 48 with the male: female ratio being 1.2:1. Majority (45.76%) of victims with suspected consumption of poison was in between 21 to 30 age group followed by the age group between 41 to 50 (26.45%). Insecticides were the most common poison used for suicidal purpose by the entire victim aged between 15-65 years irrespective of age. We also found that out total males came with poisoning, 55 % patients were married and 45% patients were unmarried. Out of the 48 females 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 12 days and the mean hospital stay was 6.9 days.

During the study period 5 of the patients had mortality due to poisoning. Most common poison used for poisoning were organophosphorous compounds (51%), in 31% cases the type of poison was not known and were treated symptomatically. In our study 86% of cases were from rural domicile and only 14% from urban population. In season wise distribution, highest cases were recorded in the month of March & April.

DISCUSSION

Poisoning is a major public health problem in Shimla 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 CHC KOTKHAI 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 out numbered the female the ration being 1.7:1 and tallies with the other Anand Mugadlimath *et al.*^[4,8,15,16,17] In our study there is a male predominance. 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.^[4,8,17,20,21,22] The hospital stay of the admitted patients with poisoning ranged from 01 to 12 days. The mean hospital stay was 6.9 days, similar findings were also observed in other studies as well. In the present study (52%) 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. In our study majorly of cases were from rural domicile similar findings were seen by other Indian studies.^[2,3,4,5,6] 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.

CONCLUSION

We conclude that poisoning is a major public health problem in Shimla district, especially organophosphorous poisoning. The reasons may be – agriculture is the main occupation in this part of country with easy availability

of insecticide, illiteracy, and low socioeconomic status. Young age persons commonly affected indicating role of psychological counseling and by tackling their problems sympathetically. We suggest the government should regulate the import, manufacture, sale, transport, distribution and use of insecticides and pesticides with a view to prevent risk to human beings. Other interventions can be creation of poison information centres, introducing separate toxicological units in the hospitals and upgrading the peripheral health centres to manage cases of poisoning in emergency.

REFERENCES

1. Suresh Kumar Gupta, Sharda Shah Peshin, Amita Srivastava and Thomas Kaleekal. A study of childhood poisoning at National Poisons Information Centre, All India Institute of Medical Sciences, New Delhi. *J Occup Health*, 2003; 45: 191-196.
2. Unnikrishnan B, Singh B, Rajeev A. Trends of acute poisoning in south Karnataka. *Kathmandu University Medical Journal*, 2005; 3(2): 149-154.
3. Singh.D.P, Aacharya R.P. Pattern of poisoning cases in Bir Hospital. *Journal of Institute of Medicine*, 2006; 28(1): 3-6. Anand Mugadlimath *et al* STUDY OF SOCIO-DEMOGRAPHIC PROFILE OF POISONING CASES AT SHRI B M PATIL MEDICAL COLLEGE HOSPITAL AND RESEARCH CENTRE, BIJAPUR *Int J Cur Res Rev*, Oct 2012; 04(20): 83.
4. Shreemanta Kumar Dash, Manoj Kumar Mohanty, Kiran Kumar Patnaik, Sachidananda Mohanty. Sociodemographic profile of poisoning cases. *JIAFM*, 2005; 27(3): 133- 138.
5. Jayaratnam J. Acute pesticide poisoning. A major global health problem. *World Health Statist Quart*, 1990; 43: 139- 144.
6. Eddleston M. Patterns and problems of deliberate selfpoisoning in the developing world. *Q J Med*, 2000; 93: 715- 731.
7. Karki P, Hansdak S G, Bhandari S, Shukla A, Koirala S. A clinico-epidemiology study of organophosphorous poisoning at a rural based teaching hospital of Easter Nepal.
8. Srinivas Rao C H, Venkateswarlu V, Surender T, Eddleston M and Nick A Buckley. Pesticide Poisoning in South India Opportunities for prevention and improved medical management. *Trop Med Int Health*, June 2005; 10(6): 581- 588.
9. Thomas M, Anandan S, Kuruvilla P J, Singh P R, David S. Profile of hospital admissions following acute poisoning experiences from a major teaching hospital in south India. *Adv Drug React Toxicol Rev.*, 2000; 19: 313-317.
10. Batra A K, Keoliya A N, Jadhav G U. Poisoning: An unnatural cause of morbidity and mortality in rural India. *JAPI*, Oct 2003; 51: 955-959.
11. Pillay V.V: MKR Krishna's Hand book of Forensic Medicine and Toxicology 12th Ed. Paras Publication. Hyderabad, 2001; 276-299.

12. Taruni N G, Bijoy T H, Momonchand A: A profile of poisoning cases admitted to RIMS Hospital Imphal. *Journ Forensic Med Toxicol*, 2001; 18: 31-33.
13. Sharma B K, Harish D, Sharma V and Vij K. The epidemiology of poisoning: An Indian view point. *Journ Forensic Med Toxicol*, 2002; 19: 5-11.
14. Singh S, Sharma B K, Wahi P L, Anand B S and Chugh K S. Spectrum of acute poisoning in adults (10 years experiences). *J Assoc Physic India*, 1984; 32: 561- 563.
15. Lall S B, Al-Wahaibi S S, Al-Riyami M M and Al-Kharusi K. Profile of acute poisoning cases presenting to health centres and hospitals in Oman. *Eastern Mediterranean Health Journal*, 2003; 9(5/6): 944-954.
16. Gupta S K, Peshin S S, Srivastava A, Kalukal T, Pandian T V. Epidemiology of acute poisoning. *Natl Med J India*, 2002 May- June; 15(3): 177.
17. Agarwal R, Barthwal S P, Nigam D K et al: Changing pattern of acute poisoning in eastern UP hospital based study. *J. Assoc Physic India*, 1995; 43: 907.
18. Senanayake N and Peris H. Mortality due to poisoning in developing agricultural country: trends over 20 years. *Hum Exp Toxicol*, 1992; 12: 435-438.
19. Singh S, Wig N, Chaudhary D, Sood N K and Sharma B K. Changing pattern of acute poisoning in adults: Experience of a large North-West Indian Hospital (1970- 1989). *J Assoc Physic India*, 1997; 45: 194-197.
20. Chan Y C, Fung H T, Lee C K, Tsui S H, Ngan H K, Sy M Y, Tse M L, et al., A prospective epidemiological study of acute poisoning in Hong Kong. *Hong Kong J. Emerg. Med*, 2005; 12: 156-161.
21. Gulati R S. Spectrum of acute poisoning in a service Hospital. *J Assoc Phy India*, 1995; 43: 908-909.
22. Nimal S, Laxman K. Pattern of acute poisoning in a Medical unit in central Sri Lanka. *For Sci Int.*, 1988; 36: 101- 104.
23. Dhatarwal S K and Dalal S S. Profile of death due to poisoning in Rohtak, Haryana in the year 1995. *J For Med Toxicol*, 1995; 15: 51.
24. Gupta B D, Vaghela P. Profile of Fatal Poisoning in and around Jamnagar. *JIAFM*, 2005; 27(3): 145-148.
25. Zine K U, Mohanty A C. Pattern of acute poisoning at Indira Gandhi Medical College and Hospital, Nagpur. *J Ind Aca For Med*, 1.