

A Retrospective Study of the Changing Trends of Acute Poisoning Cases at Tribhuvan University Teaching Hospital, Nepal Between 1990-1992 and 2000-2002

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Abstract

Introduction	The numbers of poisoning cases are increasing every year in Nepal. A retrospective study was done in TUTH to find out the changing trends of poisoning cases between 1990-1992 and 2000-2002.
Objective	The study aimed to see the changing trend of poisoning cases between 1990-1992 and 2000-2002 in terms of some variables.
Method	A retrospective study of all the poisoning cases admitted in the internal medicine department of TUTH between 1990-1992 and 2000-2002.
Result	The number of poisoning cases was found to have increased from 102 during 1990-1992 to 150 during 2000-2002. Though majority of the cases were female during both the period, numbers of male poisoning cases were found to have increased from 31.37% to 42.66%. In both the period 16-25 age group was the predominantly affected group. Cases from outside the valley were almost doubled from 10.78% to 20% over the period. Pesticide poisoning was declined from 52.94% to 46.67% whereas the number of cases using drugs as a poison was increased from 18.62% to 30.66%. Deaths due to poisoning were increased from 5.88% to 14% during the periods.
Conclusion	Pesticides is the mostly used poisoning substance but the use of drug is rapidly increasing. The total number of poisoning cases, number of male poisoning cases and deaths by poisoning are increasing.
Keywords	Poisoning, TUTH, Drugs, Recovery, Pesticides Rodenticides

Introduction

Suicide by acute poisoning is one of the leading causes of death. Acute poisoning is a common and urgent medical problem in all developed and developing countries¹. It has been found that the number of poisoning cases increased as the country gets developed. Since 1960 suicide rate due to poisoning in young adults has increased in both sexes and among the elderly also similar trend was appearing. Suicidal deaths due to poisoning in the fiscal year 1999/2000 were reported to be 31%². Patterns of poisoning in a society depend upon degree of intent of self harm, socio-economic status and availability of poisonous substance. These factors are bound to change with the passage of time so does the poisoning pattern, but there have been no study to find the change in trends of

poisoning in the past. In this background this study is an attempt in revealing the newer trends of poisoning.

Materials and Methods

It was a retrospective study of poisoning cases admitted at TUTH in 1990-1992 and 2000-2002. With the consent from the hospital, the files of all the poisoning cases admitted in the internal medicine department of TUTH in 1990-1992 and 2000-2002 were reviewed. The information retrieved from the files was age, sex, address, types of poisons taken and outcome of the treatment. Then these study variables were compared to show the changing trends in these two periods.

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Result

The results of the study are as follows:

Total number of poisoning cases and their sex distribution is shown in table 1. Total number of poisoning cases admitted in the internal medicine department of TUTH during 1990-1992 was 102, while it was 150 during 2000-2002. There is significant increase in percentage of male poisoning cases from 31.37% to 42.66%.

Table 1: Total number of poisoning cases and their sex distribution

Year	Male	Female	Total
1990-1992	31.37% (32)	68.63% (70)	102
2000-2002	42.66% (64)	57.34% (86)	150

Figure 1: shows the age distribution of the poisoning cases. There have been no marginal changes in the age distribution of the poisoning cases during 1990-1992 and 2000-2002. More than 65% of the cases were of the age group 16-25 over both the period of time.

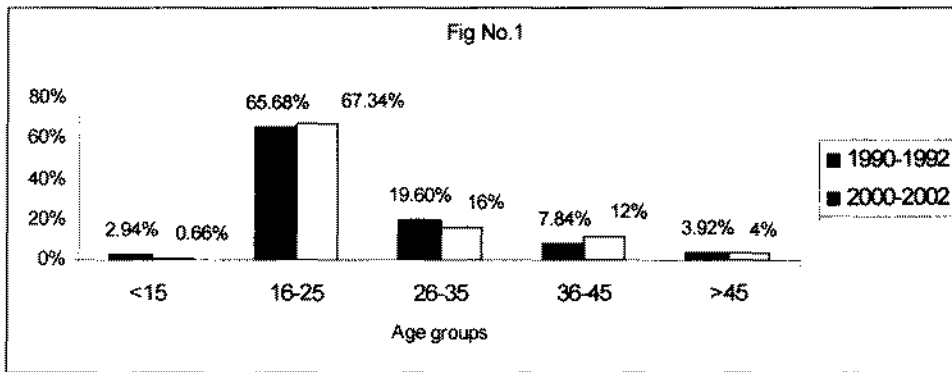


Figure 2 shows the distribution of the poisoning cases. The numbers of poisoning cases from outside the valley are increasing. These are mostly the referred cases from hospitals outside the valley.

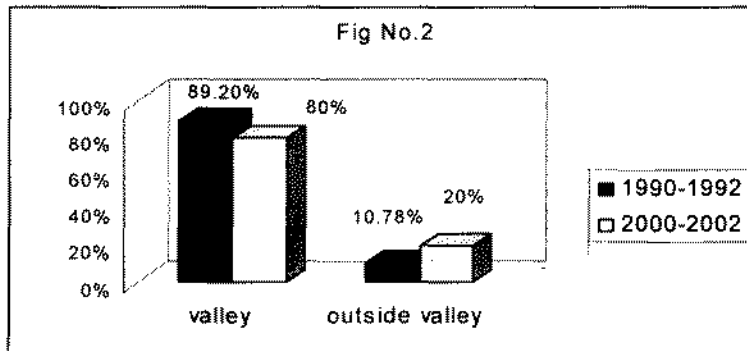
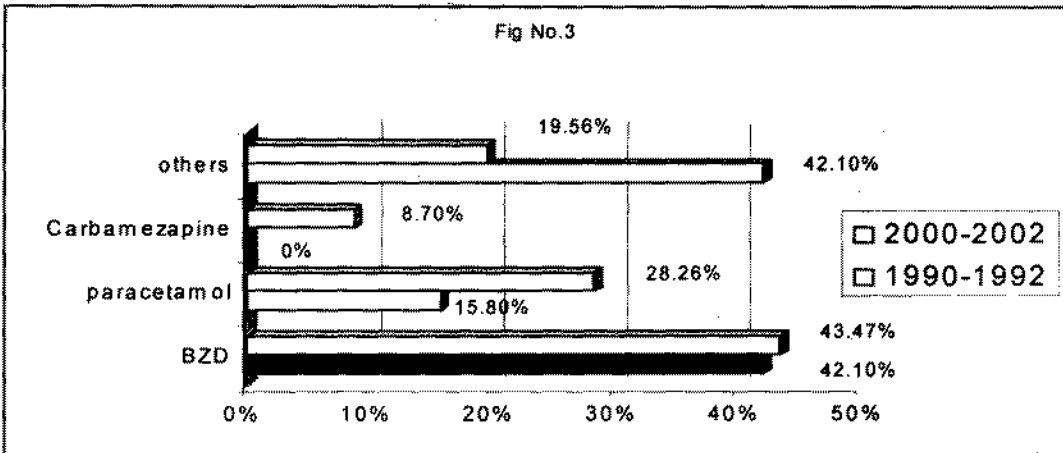


Table 2 shows the types of the poison used by the poisoning cases. Pesticides, especially organophosphates were the most commonly used poison over both the periods. The use of drugs as poison has increased significantly leading to relative decline in the use of pesticides and rodenticides. Other substances used as poison includes phenol, acid, alkali and organic herbicides.

Table No.2

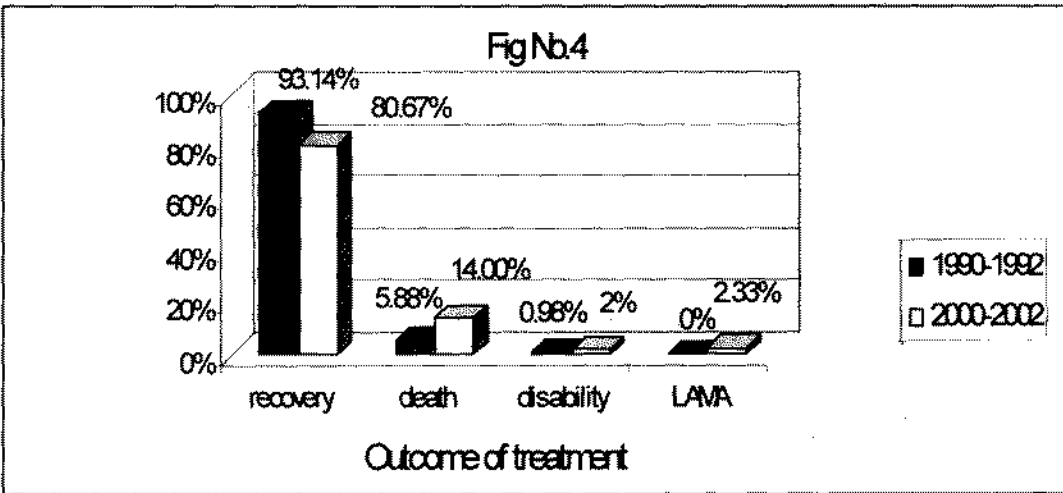
Year	Substance ingested						
	Pesticides	Rodenticides	Drugs	Kerosene	Mushroom	others	Not mentioned
1990-92	54.92%	16.67%	18.62%	-	-	8.82%	2.94%
2000-02	46.67%	12.67%	30.66%	1.33%	2%	5.34%	1.33%

Figure 3 shows the types of drugs used by the poisoning cases. Among drugs Benzodiazepine was the most commonly used drug in both the period but the use of Paracetamol as poison has markedly increased from 15.80% to 28.26%. The 'others' drug included Phenytonin, Fluoxetine and Amitriptyline.



BZD:

Figure 4 shows the outcome of treatment of the poisoning cases. The death toll among poisoning cases has increased from 5.88% to 14%.



Discussion

Acute poisoning is the significant and common medical problem. The number of poisoning cases at TUTH was increasing every year⁴. Acute poisoning cases accounted for 1.10% of total cases presented at casualty department of TUTH during October 1995 to October 1996.⁷ The study had shown a rising trend of poisoning cases attending TUTH (From 1990-1992 to 2000-2002). In both the periods there were female predominance with female to male ratio of 2.19: 1 and 1.11: 1 respectively. This finding is consistent with several other studies conducted in the past in various hospitals.^{3,4,5,6} Our study showed increasing trend of male poisoning cases. This may be due to life being more stressful and men feeling more responsible and female being more independent these days. Number of poisoning cases from outside the valley was increasing. It may be due to increased referral

or migration into valley and people tending to report their original address. The percentage of poisoning cases in our study from outside the valley in the period 2000-2002 is similar to that reported in the Nepal Medical College Teaching Hospital in the period 2000-2001.

Majority of the cases were in the age group of 16-25 in both the periods. This predominance is consistent with the age group reported from various studies in the past.⁷ Lower number of cases in the age group below fifteen may be due to Kanti Children Hospital dealing with the paediatric poisoning cases. Consistent with studies done in the past,^{3,4,5,6,9} our study also found pesticides as the most commonly used poison. The use of drug as poison has increased significantly (from 18.62% to 30.66%) leading to relative decline of rodenticide

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and pesticide poisonings. Increase in the use of drug as poison may be related to the increase in over the counter sale of drugs and knowledge of people about the toxicities of drugs. Among the drugs the use of paracetamol as poison has markedly increased from 15.8% to 28.26%. Deaths toll among the poisoning cases has increased from 5.88% to 14.00%. This may be due to knowledge of people about the lethal dose of poisons and change in the purpose of taking poison from threatening to suicidal intention. The increase in the number of death cases in spite of improving health care system may be a spurious association and may not imply the failure of health care system. The mortality figure is comparable to deaths due to poisoning in Indira Gandhi Medical College, Nagpur in the period of 1993-1995.⁸

Conclusion

At the end of the study we came to a conclusion that the numbers of poisoning cases are increasing. Though female are still predominant male poisoning cases are increasing. 16-25 age groups is the most affected age group. Poisoning cases from outside the valley are increasing. Organophosphorous is the mostly used poison in both the periods. Number of deaths due to poisoning has increased.

Recommendations

Over the counter sale of the drugs should be discouraged. Department of drug Administration should regularly monitor the retailers and dispensaries. Appropriate protocols addressing the treatment of the major poisoning cases should be made in the entire health center.

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