

Original article:

Study of etiology acute poisoning cases in Grant Government Medical College, Mumbai.

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Abstract:

Introduction: Among the leading causes of injury, poison as a form of injurious agent stands 2nd with falls being the first and burns, drowning following on. Poisoning has also been the 3rd most common injury treated in emergency rooms for children less than 16 years of age

Materials and Methods: This hospital based retrospective cross sectional study acute poisoning was approved by Institutional Ethics and Research committee of Grant Government Medical College, Mumbai and carried out in the department of Forensic Medicine and Toxicology, Grant Government Medical College and JJ group of Hospitals, Mumbai.

Results and conclusion: Most common reason for poisoning was financial problems (20%) followed by domestic troubles (17.27%), marital disharmony (15.45%), domestic violence (13.64%), unsuccessful love affairs (10.9%) and loss of job/unemployment (4.55%). Accidental poisoning was seen in 7.72% cases.

Keywords: Poisoning, causes of injury

Introduction:

Among the leading causes of injury, poison as a form of injurious agent stands 2nd with falls being the first and burns, drowning following on. Poisoning has also been the 3rd most common injury treated in emergency rooms for children less than 16 years of age[1]. A study carried out in National Institute of Child Health, Pakistan in 1988 noted that 2.98% patients coming to casualty were with some forms of poisoning [2].

Materials and Methods:

This hospital based retrospective cross sectional study acute poisoning was approved by Institutional Ethics and Research committee of Grant Government Medical College, Mumbai and carried out in the department of Forensic Medicine and Toxicology, Grant Government Medical College and JJ group of Hospitals, Mumbai. This is a comprehensive study of two years duration from 1/09/2011 to 1/09/2013. Proformas for the study designed after going through the available literature and consulting experts in the field of medical sciences. This comprehensive proformas contains demographic and medico-legal aspects of poisoning cases.

Results:

Table 1: Reasons for consumption of poison

Reasons for consumption	2011		2012		2013		Total	
	No.	Percent	No.	Percent	No.	Percent	No	Percent
Financial problem	12	22.22	7	17.5	3	18.75	22	20
Domestic troubles	9	16.67	7	17.5	3	18.75	19	17.27
Unsuccessful love affairs	5	9.26	5	12.5	2	12.5	12	10.9
Marital disharmony	8	14.8	6	15	3	18.75	17	15.45
Domestic violence	7	12.96	5	12.5	3	18.75	15	13.64
Dowry problems	2	3.7	2	5	0	0	4	3.63
Prolonged illness	2	3.7	1	2.5	0	0	3	2.72
Loss of job/unemployment	2	3.7	2	5	1	6.2	5	4.55
Known mental illness	3	3.7	2	5	0	0	5	4.55
Accidental	4	7.4	3	7.5	1	6.2	8	7.72
Total	54	100	40	100	16	100	110	100

Table 1 describes the various reasons for consumption of poison in poisoning cases. Most common reason for poisoning was financial problems (20%) followed by domestic troubles (17.27%), marital disharmony (15.45%), domestic violence (13.64%), unsuccessful love affairs (10.9%) and loss of job/unemployment (4.55%). Accidental poisoning was seen in 7.72% cases.

Discussion:

Most common reason for poisoning was financial problems (20%) followed by domestic troubles (17.27%), marital disharmony (15.45%), domestic violence (13.64%), unsuccessful love affairs (10.9%) and loss of job/unemployment (4.55%). Accidental poisoning was seen in 7.72% cases.

In our study Intentional poisoning was seen in 92.72% and accidental poisoning was 7.28%. Our finding of intentional poisoning is consistent with findings of Singh DP et al.² (98%), Srinivas Rao et al.³ (96%), Kar SM et al. Other authors also have mentioned very high percentage of intentional poisoning. Chavan KD et al. (57), Bhatkule PR (64) and Sinha US et al.(9) reported it 89.13%, 92.8% and 87.02% respectively. Accidental poisoning reported by Chavan KD et al. (57), Bhatkule PR (64) and Sinha US et al.(9) was 12.98%, 7.5% and 7.31% respectively.

Various reasons for intentional poisoning in our study were financial problems (20%), Domestic troubles (17.27%), Marital disharmony (15.45%), Domestic violence (13.64%), unsuccessful love affairs (10.9%), Dowry problems (3.63%), prolonged illness (2.7%), loss of job/unemployment (4.55%), and known mental illness (4.55%). This finding is consistent with the findings reported by Chataut J et al. 97% of all the cases were from suicidal acts.⁴ A majority of the cases (20%) were due to financial problems, which is followed by domestic troubles (17.3%), unsuccessful love affairs (16%), and marital disharmony (13%). The rest were because of variety of reasons like domestic violence, dowry problem, chronic illness and loss of job. Accidental ingestion was reported in only two cases. Chavan KD et al.(5) reported family conflict as a cause of intentional poisoning in 60.67% cases. Reasons for higher number of suicide due to family conflicts may be due to fact that maximum cases in the present study were in the age group of 21-40 years in which most of the individuals were immature and short tempered due to more stress, various responsibilities, bad habits, addictions, so minor cause may be sufficient in them to cause suicidal impulse. Other reasons for suicides in the present study including failure in examination, financial problem, failure in love, unemployment and others correlate with the reasons for suicide mentioned in the study conducted by Chavan KD et al.(5)

In our study financial problem was responsible for 20% of poisoning cases. Gannur DG et al.(6) reported that in maximum number of poisoning cases, the cause of suicide to be financial problem (76.28%) followed by domestic problems in 19.20% cases.

Dowry deaths also have reported in our study. Economic dependence of women and dowry demands are common in rural area. Higher incidence of violence against women by husband and her in laws may have lead to suicidal impulse.

In our study 4 (3.63%) poisoning cases were custodial.

. In 2011 mean time interval from date of postmortem to chemical analysis report was 14.11 ± 7.474 months with 24 months of range. In year 2012, it was 9.789 ± 5.272 months with 17 months of range. Chemical analysis reports of the cases which had undergone postmortem in 2013 are still not reported.

Total Reports pending till date are 16.36%. This findings is more than the finding reported in Job C et al.(74) study. They mentioned it 2.92% cases only. This may be because of fact that he conducted retrospective study on the cases in the year of 1995 and reports were analyzed in 2009. So during the period of 14 years, most of the reports of chemical analysis of viscera had been received. But in present study, only cases of poisoning in last two years were observed, so pendency of chemical analysis report was more. More pendency of reports may be because of shortage of manpower and proper equipments. Non-conclusive reports were reported in 60.9%. No poison was revealed, which could be due to elimination of poison by vomiting or stomach wash, faulty preservation or decomposed

tissue. Other reason may be that all the poison was neutralized, metabolized or excreted. Finding of negative chemical analysis of viscera in 60.9% cases in our study is more than Job C et al. (7) who reported it 30.58%.

In our study corrosive poisoning was noted in 3.63%. Alcohol, insecticides and drug poisoning were noted in 16.36%, 0.91% and 1.81% cases respectively. No case of Organophosphorous poisoning or animal bite was observed in our study. In our study many cases were farmers and engaged in farming and the insecticides are easily available with them.

Our findings are in contrast with the findings of Vivekanandan et al.(86). They reported Organophosphorous, drug over dose, insecticides, colour dyes, kerosene poisoning in 31%, 23.3%, 16.2%, 13% and 7.8% poisoning cases respectively. They did not mention alcohol poisoning in any case.

Conclusion:

Most common reason for poisoning was financial problems (20%) followed by domestic troubles (17.27%), marital disharmony (15.45%), domestic violence (13.64%), unsuccessful love affairs (10.9%) and loss of job/unemployment (4.55%). Accidental poisoning was seen in 7.72% cases.

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