

## A STUDY OF PATTERN AND PREVALENCE OF POISONING IN RURAL AREAS OF KANCHIPURAM DISTRICT

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### ABSTRACT

#### BACKGROUND

Poison is a substance that causes damage or injury to the body and endangers one's life due to its exposure by means of ingestion, inhalation or contact. Acute poisoning cases form one of the commonest causes of emergency hospital admissions.

The aim of our study is to study the epidemiological and pattern of reported poisoning cases in a tertiary care hospital in Kanchipuram district. It is a retrospective study in SSSMC and RI, a tertiary healthcare centre conducted for 4 yrs.

#### MATERIALS AND METHODS

245 poisoning cases from rural areas admitted in SSSMC and RI, a tertiary healthcare centre. The details of patient's demography such as age, gender, type of poison, occupation and provoking factor for poisoning were documented and analysed.

#### RESULTS

Out of 245 cases, 118 were males and 127 were females, OPC poisoning and drug overdose were almost equal. Majority of the age group who resorted to self-poisoning were 18-30 yrs. The risk factor most common being in males is love failure and females being student's underperformance. In this study, the patients are mostly farmers and a few were jobless also. In females, majority were homemakers and farmland workers.

#### CONCLUSION

Our hospital especially renders services to the rural people mostly with low socioeconomic and low education status. The mortality and morbidity due to poisoning will be reduced by conducting educational programs and providing regular counselling to distress and tackle the risk factors and provide poison information service to the needy people.

#### KEYWORDS

Self-Poisoning, Rural People, Pattern of Poisoning.

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#### BACKGROUND

Poisoning is a significant contributor to mortality and morbidity all over the world.<sup>1</sup>

Poison is a substance that causes damage or injury to the body and endangers one's life due to its exposure by means of ingestion, inhalation or contact.<sup>2</sup> Acute poisoning cases form one of the commonest causes of emergency hospital admissions. Pattern of poisoning depends on variety of factors such as easy availability of poisons and socioeconomic status of patient. Poisons are subtle and silent weapons, which can be easily used without violence and often without arousing suspicion. Poisoning is a medical emergency and a patient is always invariably rushed to the

hospital at the earliest possible moment irrespective of the amount and nature of poison ingested.

Socioeconomic disadvantage, poor housing quality and low levels of education are also common causes of self-poisoning.<sup>3</sup>

Poisoning is a medical emergency.

Our aim is to study the epidemiological and pattern of reported poisoning cases in a tertiary care hospital in Kanchipuram district.

#### METHODS AND MATERIALS

It is a retrospective study of 245 poisoning cases from rural areas admitted in SSSMC and RI, a tertiary healthcare centre. The study was conducted over 4 years. The details of patient's demography such as age, gender, type of poison, occupation and provoking factor for poisoning was documented and analysed. None of the patients had any prior psychiatric illness.

#### RESULTS

There is no healthcare facility, however small where poisoning cases are not dealt with. Ours being a tertiary care

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hospital in rural area. We included 245 cases of poisoning and we found a total of 118 males and 127 females (Table 3). OPC poisoning and drug overdose were almost equal (Table 1), whereas other types of varied poisons also contributed to the study. Majority of the age group who resorted to self-poisoning were 18-30 yrs., whereas other categories were in less number (Table 2). In this study, males are mostly farmers and a few were jobless also (Table 4). In females, majority were homemakers and farmland workers (Table 5). The risk factors has been tabulated and found out the most common risk factor in male is love failure (27.11%) followed by financial burden (18.6%), whereas in females the most common risk factor is due to students underperformance (29.13%) followed by love failure (28.6%) (Table 6).

Sl. No.	Type of Poison	Number of Cases	Percentage
1.	Organophosphorus compound	57	23.3
2.	Drug overdose	55	22.4
3.	Oleander	37	15.1
4.	Killer- Ant killer	17	7.0
	Rat Killer	25	10.2
5.	Kerosene	18	7.3
6.	Detergent	11	4.5
7.	Environmental snake bite and scorpion sting	12	4.9
8.	Others- (cypermethrin thinner and crane killer poison)	9	3.7
9.	Herbal and herbicide poison	4	1.6
	<b>Total</b>	<b>245</b>	<b>100</b>

**Table 1. This Table Enumerates the Type of Poison with the Number of Cases and Percentage**

Gender	Age Group in Years			Total
	18-30	31-40	41-50	
Male	83	27	8	<b>118</b>
Female	76	36	15	<b>127</b>
<b>Total</b>	<b>159</b>	<b>63</b>	<b>23</b>	<b>245</b>

**Table 2. Age Distribution**

Poisons	Number of Cases	Gender	
		Male	Female
Organophosphorus compound	57	35	22
Drug overdose	55	20	35
Oleander	37	21	16
Killer	42	12	30
Kerosene	18	10	8
Detergent	11	6	5
Environmental	12	8	4
Others	9	4	5
Herbal and herbicide poison	4	2	2
<b>Total</b>	<b>245</b>	<b>118</b>	<b>127</b>

**Table 3. Sex Distribution**

Males	
Occupation	Number of Cases
Industrial workers	15
Farmers	54
Labourer	13
Educational	28
Jobless	8
<b>Total</b>	<b>118</b>

**Table 4. Occupation in Male Gender**

Females	
Occupation	Number of Cases
Homemakers	47
Industrial workers	12
Farmers	42
Domestic aids	9
Educational	17
<b>Total</b>	<b>127</b>

**Table 5. Occupation in Female Gender**

Risk Factors	Males	%	Females	%
Family disputes	15	12.7	29	22.8
Financial burden	22	18.6	20	15.7
Crop failure	11	9.3	11	8.66
Alcoholic dependence	18	15.2	0	0
Love affair	32	27.11	30	23.6
Students underperformance	20	16.9	37	29.13
<b>Total</b>	<b>118</b>	<b>100%</b>	<b>127</b>	<b>100%</b>

**Table 6. Risk Factors in Poisoning**

## DISCUSSION

The study is mainly focused on to assess the pattern of poisoning and risk factors of cases admitted in a tertiary care hospital. The type of poisoning patient prefers depends on the availability and also influenced by factors like prior knowledge about the poison and its effects by different means of communication and information including media.<sup>4,5</sup>

This is a retrospective study obtaining clinical data from 245 patients who attended ER, subsequently admitted to MICU, stabilised and shifted to general ward and discharged barring 1 death. The definition of poison is any substance when introduced into or absorbed by living organism destroys life or injures health irrespective of mechanism or direct thermal changes. We found that females outnumbered males (females = 127, males = 118), which is akin to the study by Katherine Prescott and Co. where the females to males ratio was 2.5:1. In younger age group (Katherine Prescott Richard Strottonannele Freezer).<sup>6</sup> detailed analysis of same poisoning episodes presenting in a large regional teaching hospitals in UK. Whereas, study conducted in rural South India by Heethal Jai Prakash Co.<sup>7</sup> (male outnumbered females) out of 225 (males=139, females=225). Among the various types of poisoning, OPC outnumbered (72.2%) than other types of poisoning in a study on poisoning cases in tertiary care hospital by Subhashkumar.<sup>8</sup> In our study, OPC and drug overdose are almost all similar %. The age group is also are of 18-30 yrs. age and there were few number of cases above 50 yrs. in

both gender. Occupation wise also farmers were 54/118~45.77% compared to other occupation. In females, more were homemakers (47/127) and farmworkers (42/127). Overall, in our study, in tertiary care hospital being located in rural area, females are more prone for poisoning. The provoking factors being family disputes due to inadequacy in finance, food and in literacy, family adjustments and interpersonal relationship. Though, more males are farmers by occupation, they don't have regular income due to monsoon or crop failure, chronic alcoholic dependence and alcoholic-related disorders. Females are mostly the bread winners and their commitment and involvement is considerably high. The most common risk factor in male is love failure (27.11%), followed by financial burden (18.6%); whereas in females, the most common risk factor is due to students underperformance (29.13%) followed by love failure (28.6%).

### CONCLUSION

All the 245 patients were screened by the psychiatrist and psychologist wherever necessary and the comment was mostly adjustment disorder. So, there is a high need to conduct mass screening program and counseling to prevent self and deliberate poisoning and to tackle the risk factors and raise social awareness regarding alcoholism among men, which will curtail considerably the amount of stress among the public.

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