



An observational study on acute poisoning in a tertiary care hospital in Tripura

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ABSTRACT

Aim and objectives : To estimate the epidemiological profile of acute poisoning patients admitted in Agartala Government Medical College and GBP Hospital.

Materials and Methods: This observational study was conducted in Medicine Department of Agartala Government Medical College & GBP hospital between January 2020 to June 2020. Patients admitted to this hospital with a clinical diagnosis of any acute poisoning with drugs or chemicals were the study participants irrespective of age and sex.

Results: Overall female (54%) preponderance was observed compared to males (46%). Most of the poisoning cases were from the age group 18 to 24 years (35.8%) followed by age group 25 to 39 years (28.6%). Most common substance for poisoning was Organophosphorus (40%), followed by drugs (23.4%), oleander (17.8%) rodenticide (9.8%), corrosives (7.3%). Home was the most common place where 95% of incidence took place. This study reported that 62% of study population was married while 38% were unmarried. In the present study, Organophosphorus poisoning was found more among rural population (80%) and the proportion was higher among males (58%). Corrosive ingestion cases were mostly found in adolescent and young adult males in tribal population (93%) and seen more in rural areas (75%). Among the drug abusers, proportion of females were higher (91%). The drugs commonly used are benzodiazepines, NSAIDs, etc. Oleander poisoning mostly found in males (58%) and in rural areas. In rodenticide poisoning, female proportion is higher (55%), mostly seen in non tribal population (79%) and in rural areas (75%). Among the rodenticide ingestion cases mortality was found to be higher with paste ingestion (95%) than cake (5%). Overall mortality was found to be higher among corrosive (42%) cases.

Conclusion: Most of poisoning cases were observed among females though incidence among males not less. Incidence was quite high among married young adults & home was the most common location. Domestic violence was one of the factors behind this suicidal attempts. Organophosphorus compounds, one of the most commonly used poisons, was found more in rural areas may be due to its indiscriminate use in farming practices. Corrosive ingestion cases were mostly among tribals may be due to easy availability of corrosives in the villages. The present study raises the epidemiology of different poisons. Large case-control studies are needed to evaluate in details of psychological & economical factors among vulnerable young adults.

Introduction :

Poisoning is an important public health problem causing significant morbidity and mortality throughout the world. According to World Health Organization (WHO), globally more than three million of acute poisoning cases with 2,20,000 deaths occur annually (WHO 1999)¹. It has been estimated that, in India five to six persons per lakh of population die due to acute poisoning every year². The young and middle aged people are the most vulnerable for the acute poisoning episodes³. As most of the population of India lives in villages, studies have revealed that pesticides are the commonly used agents for self harm in India⁴. Early diagnosis, treatment and prevention are crucial in reducing the burden of poisoning-related injury in any country⁵. The purpose of studying poisoning cases is primarily determination of the occurrence of use of various toxic substances (poison), distribution of type of poisoning in the demographic area & detection of proportional mortality. This study aimed

to prevent future cases, along with providing proper baseline data as no study was conducted in this region of India.

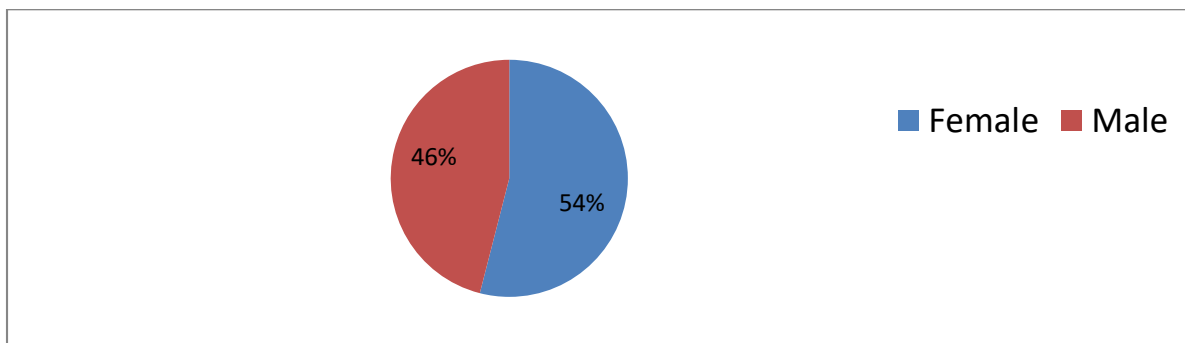
Materials and Methods :

This observational study was conducted in Medicine Department of Agartala Government Medical College & GBP hospital between January 2020 to June 2020. Patients admitted to this hospital with a clinical diagnosis of any acute poisoning with drugs or chemicals were the study participants irrespective of age and sex. Cases of food poisoning, snakebite, dog or other animal bites, and chronic drug or chemical poisoning (e.g., arsenicosis) were excluded. Those unwilling to provide written informed consent were also excluded. Data was obtained in pre-structured proforma regarding patient's demographic information, incidence, cause & type of poisoning.

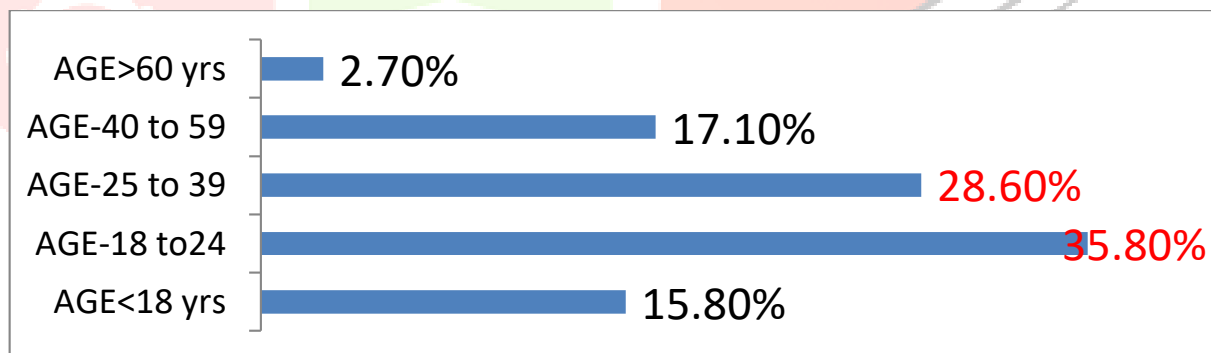
Data was analysed by SPSS software ver.15 using appropriate statistical tests.

Results:

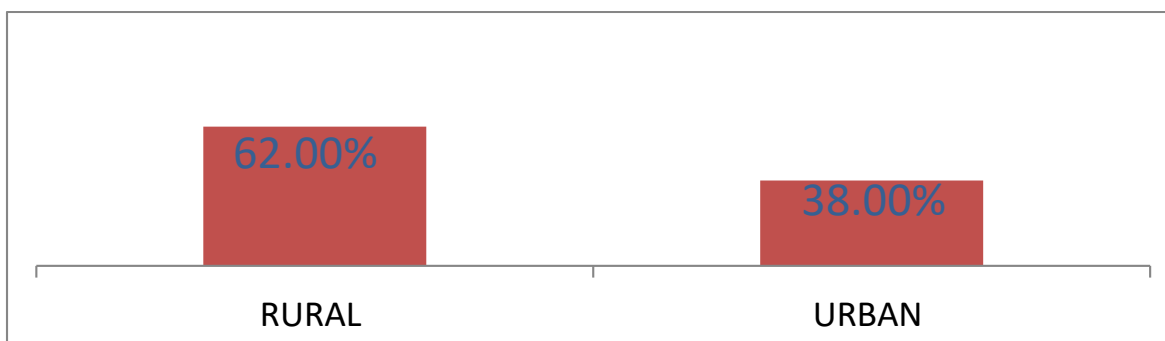
Sex Wise Distribution Of Poisoning



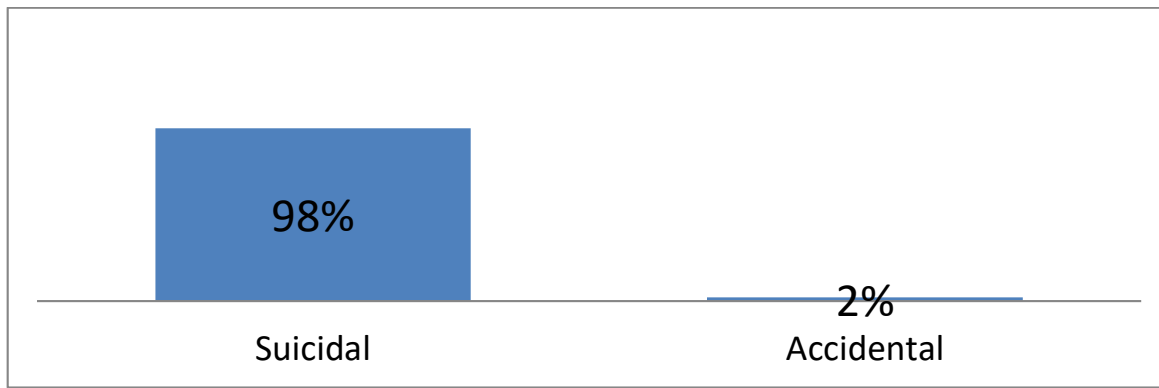
Age Wise Distribution Of Poisoning



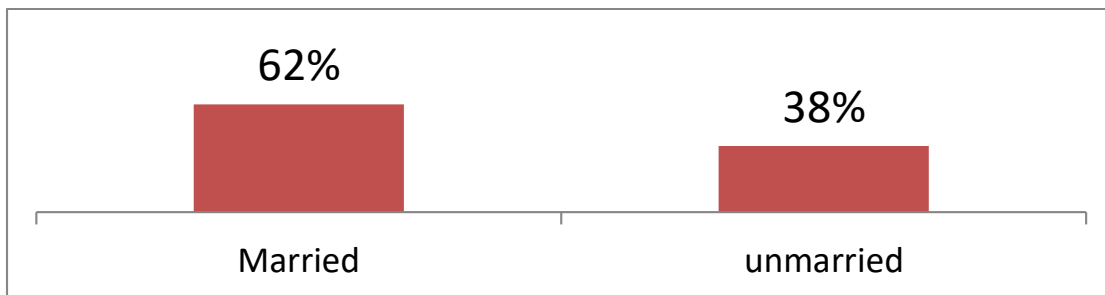
Urban Vs Rural



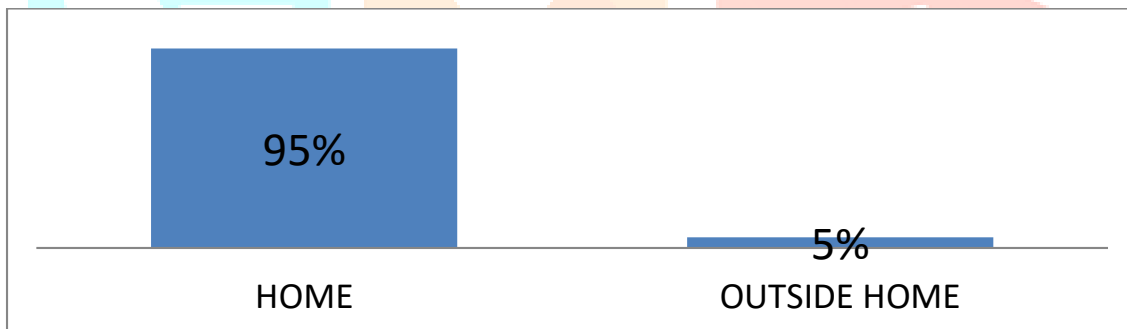
Reason of poisoning



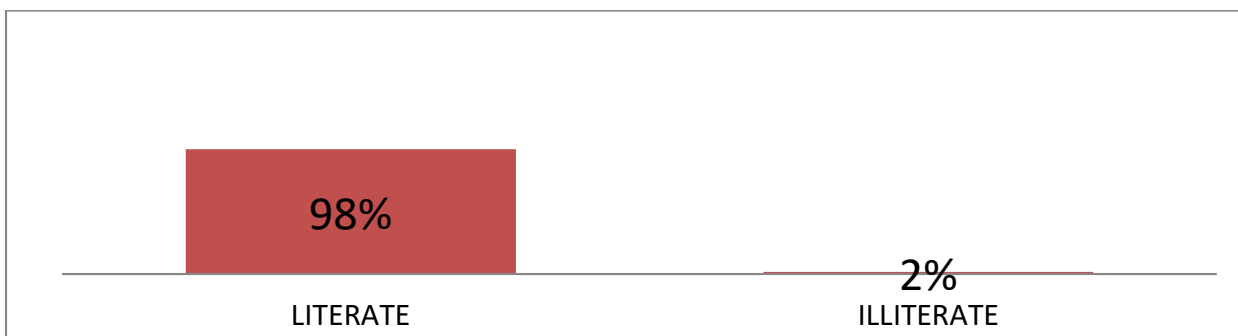
Marital Status



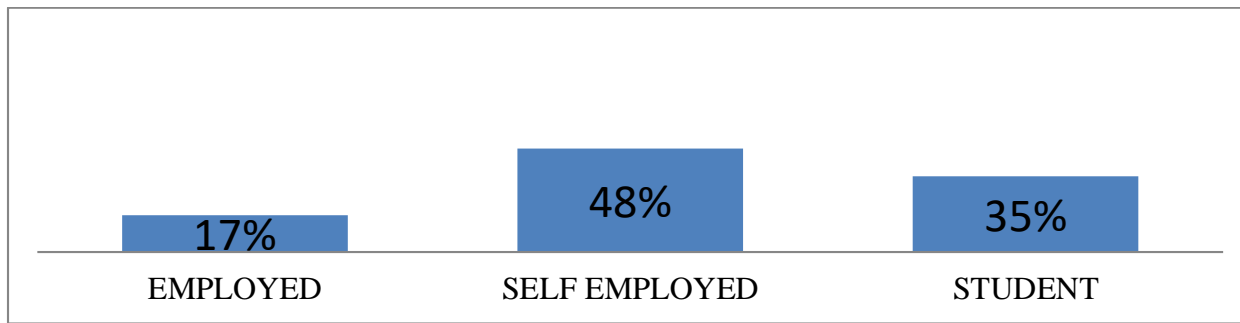
Place of Poisoning



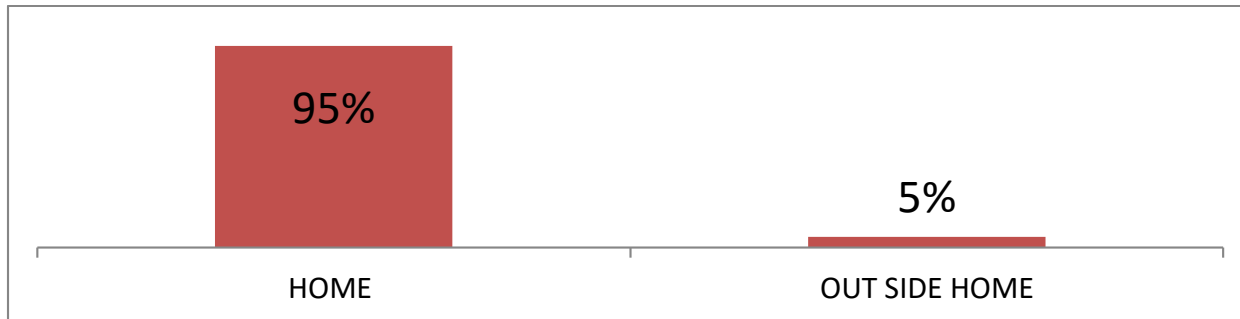
Educational Status



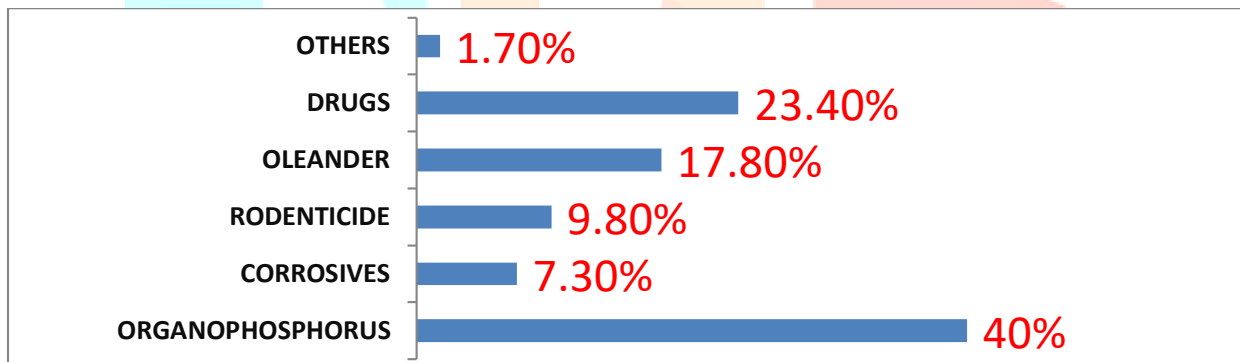
Occupational Status



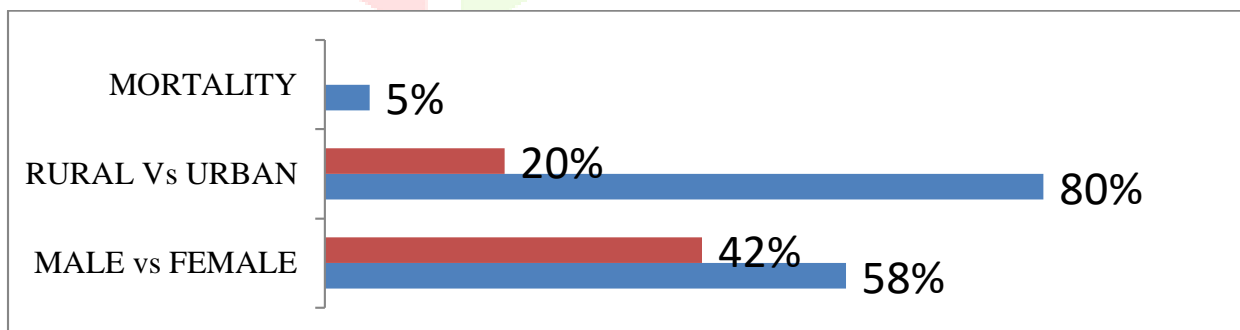
Site Of Poisoning



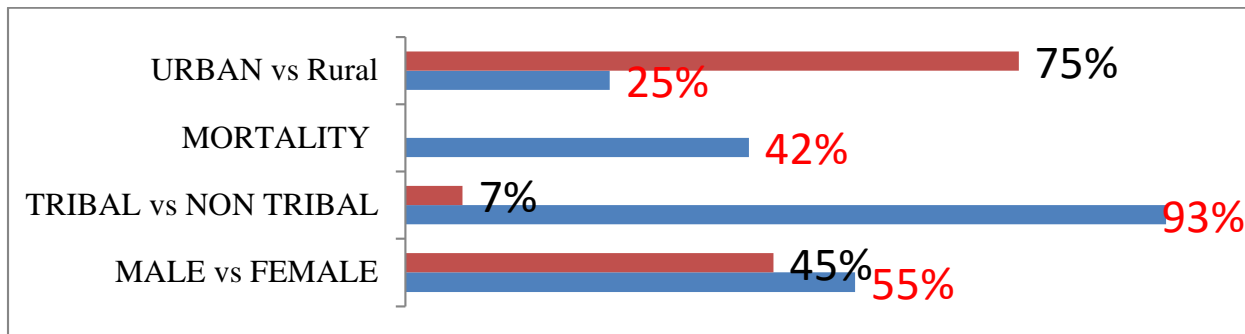
Poisoning Agent



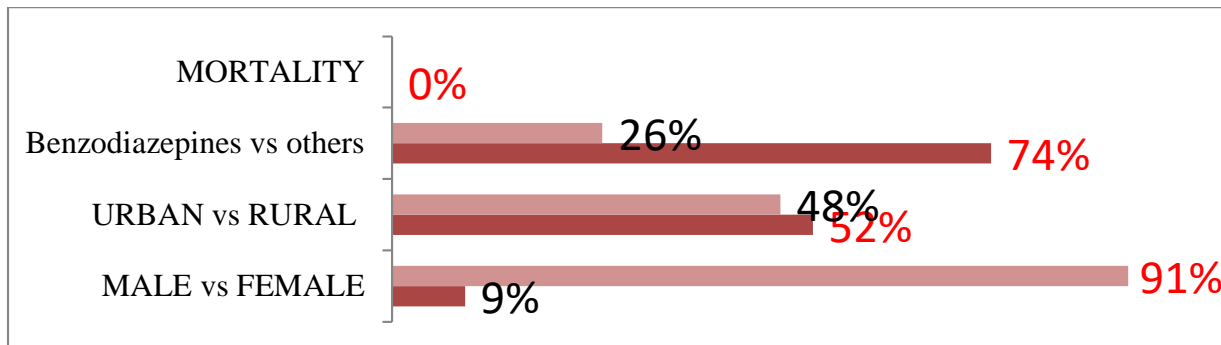
Organophosphorous Poisoning



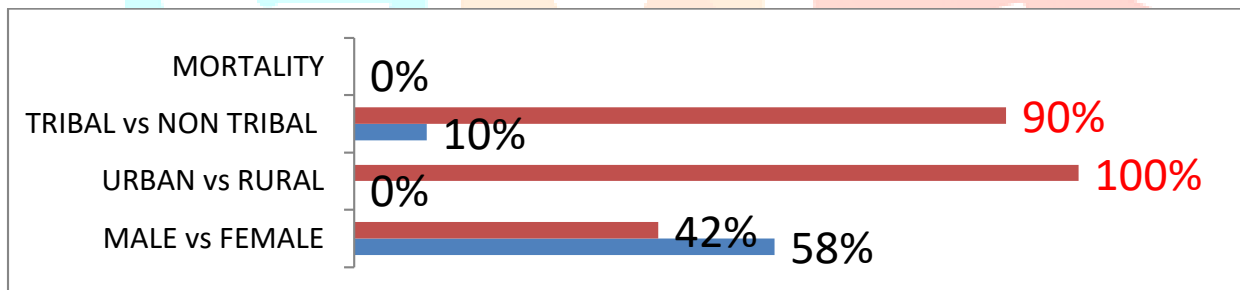
Corrosive Ingestion



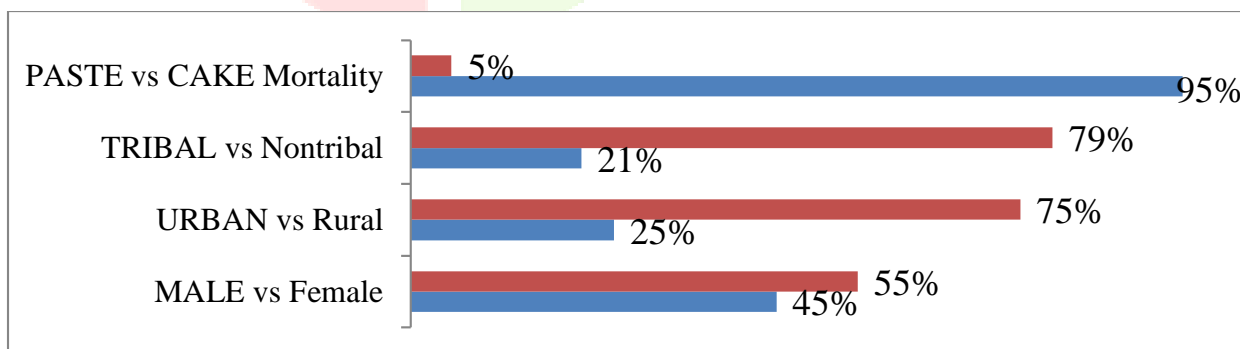
Drug Abuse



Oleander Poisoning



Rodenticide Poisoning



Discussion :

Female (54%) preponderance was observed compared to males(46%). In other studies conducted in India, the male ratio was found to be higher than females. Studies from Nepal¹¹ has shown male: female =1:2, Albania¹² M:F=0.09:1, Turkey^{13,14} M:F=1:1.47. Most of the poisoning cases were from the age group 18 to 24 years (35.8%) followed by age group 25 to 39 years (28.6%). Similar age group of poisoning was reported by various studies. Most common substance for poisoning was Organophosphorus (40%), followed by drugs (23.4%),oleander(17.8%) rodenticide (9.8%), corrosives (7.3%). Studies conducted in north india⁶ & south India^{8,10} showed that OP poisoning was higher in proportion than other poisoning, whereas in other studies conducted in Uttarakhand⁷ lower percentage of OP poisoning cases are found. Home was the most common place

where 95% of incidence took place. This study reported that 62% of study population was married while 38 % were unmarried. Maharani B et al¹ found that married males (56 cases, 37.33%) outnumbered unmarried males and this fact is evident also from other studies. In the present study, OP poisoning was found more among rural population (80%) and the proportion was higher among males (58%). Corrosive ingestion cases were mostly found in adolescent and young adult males in tribal population (93%) and seen more in rural areas (75%). Among the drug abusers, proportion of females were higher (91%). The drugs commonly used are benzodiazepines, NSAIDs, etc & similar findings in Bamathy B et al³. Oleander poisoning mostly found in males (58%) and in rural areas. In rodenticide poisoning, female proportion is higher (55%), mostly seen in non tribal population (79%) and in rural areas (75%). Among the rodenticide ingestion cases mortality was found to be higher with paste ingestion (95%) than cake (5%). The most common mode of poisoning was suicidal & similar finding was found in Amita et al⁹. Among all the cases, mortality was found to be higher among Corrosive (42%) and rodenticide ingestion, followed by OP poisoning.

Conclusion: Incidence was quite high among married young adults & home was the most common location. Domestic violence was one of the factors behind these suicidal attempts. Organophosphorus compounds, one of the most commonly used poisons, was found more in rural areas may be due to its indiscriminate use in farming practices. Corrosive ingestion cases were mostly among tribals may be due to easy availability of corrosives in the villages. The present study raises the epidemiology of different poisons. Large case-control studies are needed to evaluate in details of psychological & economical factors among vulnerable young adults.

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