PROFILE AND ANALYSIS OF MAIN CAUSATIVE FACTORS FOR SELF POISONING AT A TERTIARY CARE HOSPITAL

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Abstract

Suicidal poisoning is one of the most common methods of suicide worldwide. Self-poisoning is a common cause of unnatural death and it continues to be a major public health problem. A one year study was conducted from Oct 2010 to Oct 2011 at a Tertiary Care Mamata General Hospital Khammam, Andhra Pradesh. A total of 186 acute poisoning cases were admitted in the emergency department, out of which 122 were self-poisoning cases, 32 victims succumbed to death and the remaining 90 victims survived. This study was undertaken to focus on Sociodemographic profile of self- poisoning suicide cases and the main objective of study is to know the various causative factors behind self- poisoning suicide cases.

A total of 122 self -poisoning cases, male 85 [69.67%] and female 37[30.37%] with a male to female ratio is 2.29:1. Most commonly affected age group is between 21-30 years both male and female 86 [74.49%] victims. Married population 82[67.21%] outnumbered unmarried population. Victims predominantly belonged to the Hindu community 92[75.40%]. Self -poisoning cases from rural area were found to be more than that from urban area.98 [80.32%] .110 of the cases belonged to middle socioeconomic status. Majority of the victims were farmers 66 [54.90%] and illiterate 68 [55.73% .Most of the victims have chosen their residence as place of self- poisoning 112[91.80%]. Occurrence of self- poisoning were more common during day time as compared to during night time. The incidence of poisoning was more common during winter season .Most of the victims were living as a nuclear family at the time of incident. Organo phosphorus insecticides were the most commonly 73 [59.83%] abused substance for self- poisoning. Domestic problems were the most common causative factor for self- poisoning 62[50.81%] followed by financial and chronic illness problems.

Keywords: Poisoning, Suicide, Self-poisoning, Domestic problems

Introduction

Suicide is considered a complex behavior that has biological, social and psychological implications[1]. Suicidal poisonings are the second most common manner of death, the first being accidents[2]. Mortality and morbidity due to acute poisoning is a global phenomenon and has medical, legal and social importance. Over 100,000 people die by suicide every year in India and contribute to more than 10% of suicides in the world. The Suicide rate has increased steadily in the country from 11.4 [2010] to >15[2011] per 100,000 and more than 15 people kill themself very hour from suicidal poisoning. Suicide attempters are 10 times in number compared to suicide completers. The mortality worldwide is

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estimated to be 0.6%of all deaths per year as per W H O .In developing country like India pesticides are the most popular method for self-poisoning and cause an estimated 300000 deaths each year. An estimated 3 million people are hospitalized for pesticide poisoning each year throughout the world, resulting in 7.3 % of mortality. Most of this morbidity and mortality is due to self-poisoning. Suicide by poisoning is a continuing tragedy in developing countries including India[3].

Self-poisoning is one of the oldest methods used for intentional suicide and it is believed that poisoning kills without significant suffering. Suicidal poisoning is posing a major public health problem. It is traumatic and painful to family members [4] .It has an effect on economic status and a loss of reproductive human sources. The present study attempts to analyze the occurrence of suicidal poisoning in a tertiary care hospital attached to a Mamata Medical College Khammam, Andhra Pradesh .Present study focus on Sociodemographic prole and causative factors behind self -poisoning, choice of poisoning and prevention of occurrence

Material and methods

The study is carried out for a period of one year from Oct-2010 to Oct 2011 at Mamata General Hospital Khammam, Andhra Pradesh. A total of 186 acute poisoning cases were admitted in emergency department, which of 122 self-poisoning cases were included in the present study. Data were collected in a Proforma, directly from conscious victims and for unconscious, uncooperative cases data were collected after stabilized. Interview of relatives, friends, accompanied persons in case of irritable and unconscious victims

Results

122 cases were admitted to the hospital with diagnosis of self- poisoning

Data analyzed and following observations were noted .

Most common affected age of self-poisoning victims were in the age group of 21- 30 years 86 [79.49%] followed by 31-40 years age group22 [18.03%] and minimum 14 [11.47%] victims from 10-20 years age group. No cases were reported in the age group of 50- 60 years.

Majority of victims were males 85 [69.67%] as compared to females 37[30.32%].The male to female ratio being 2.29:1

According to marital status married people outnumbered 89 [72.95%] unmarried 33[27.04%] people. Married male were 59 and unmarried male were26 cases. Whereas married female were 30 and unmarried female were 7 cases.

Majority of cases were from the Hindu community 98[80.32%] followed by Christian community 16 [14.91%] and least were from the Muslim community 8 [6.55%]

Rural population78 [63.93%] out-numbered urban population 44 [36.06%].

According to socioeconomic status the majority of victims belonged to that of middle socioeconomic status 75 [61.47%] followed by a lower socioeconomic status37 [30.32%] and least victims belonged to the upper socioeconomic status10 [8.19%]

Majority of the victims were illiterate 62 [50.81%] as compared to literates 60 [49.18%] .Literates including victims studied up to high

school 50 [40.98%] and victims studying up to college 10 [8.19%]

Occupation wise, farmers were top on the list of self-poisoning cases that was 52 [41.80%] followed by labor class 40 [32.78%], house wives 15[12.29%], unemployed people 10 [8.19%] and least were students 5[4.09%]

Most of the victims selected their residence as place of suicide 116[95.80%]. While only 6[4.91] victims chose an outdoor environment for suicide

Majority of victims committed self-poisoning during day time 118 [96.27%] as compared to during night time 4 [3.27%].

Highest cases occurred during the winter season 64 [52.45%] with a less number of cases during the summer season 40 [32.78%] and least cases occurred during the rainy season 18 [14.75%].

At time of incidence majority of victims was living as a nuclear family102 [83.60%] as compared to joint family victims 20 [16.39%]

As per a period of survival, majority of victims were admitted in hospital within 24 hours after self- poisoning 106 [86.88%] followed by victims who were admitted in 24-48hrs 16 [13.11%], 32[26.22%] victims who succumbed to death after 72 hours after self-poisoning.

The most common substance used for self- poisoning was organo phosphorus insecticides 73[59.83%] followed by rodenticide 18[14.75%] and medicinal drug abuse 11[9.01%]. Next is Carbamate 8[6.55%] and least common were chlorinated hydrocarbons6[4.91%].Whereas irritants 3 cases and plant poisoning 2 cases were recorded, while only one corrosive case is noted as depicted in the table no. 1.

According to the underlying cause of suicide by self-poisoning, majority of victims ingested poison as a result of domestic problems 62[50.81%] followed by financial crisis 26 [21.31%]; next is chronic illness 10 [8.19%] and least psychiatric illness 8 [6.55%].Love failure 5[4.09%], academic failure 3[2 . 4 5 %] and unemployment 4[3.27%] and alcohol/drug abuse 3[2.45%] were least common causes for self-poisoning. In only one case no clear cause was found as depicted in the table no.2.

About 30 victims left suicide notes about the causes/ reasons for committing suicide by poisoning

Discussion

Majority of self- poisoning victims were in the age group of 21- 30 years86 [79.49%] and is signicantly less in the age group of10-20 and no cases were seen in the age group of 50-60 years. Similar findings are noted by the authors [7-12.] This explains that this age group is determining factor of life. They are subjected to mental stress and strain during this period which leads to emotional stress and causes a person to commit suicide.

In relation to gender, self-poisoning was more with male [85]which out numbers the female[37] ,the male to female ratio is being 2.29:1. These are consistent with authors [1-14.] Male preponderance is due to the fact that males are more often exposed to the stress and strain of day to day life. They have more financial, social responsibility of family and occupational hazards than the female in this area.

Suicidal poisoning is more among the married population 89 [72.95%] as compared to unmarried population 33 [27.04%]. Similar

observations were made by authors [9-13]. The married people have to undergo more amount of stress in their day to day life which makes them more vulnerable to self-poisoning.

Majority of victims belonged to the Hindu community 98[80.32%] as compare to Christian 16 [14.91%] and Muslim community 8 [6.55%].which shows the distribution of population of different religion in this area . These are consistent with previous studies[14.]

This study shows that majority of victims were from rural areas 78 [63.93%] and remaining were from urban areas 44 [36.06%] .These are consistent with authors [11,14].The occurrence of more suicidal poisoning cases are due to easily available at local areas , abundant use of pesticides in agricultural fields , and no laws preventing in sale and storage of such poisons.

Occupation wise, farmers were top of list 52 [41.80%].These are consistent with previous studies[10,11,14]. Because agriculture is the main occupation in this area of study and it is dependent on monsoons and financial status of farmers

Illiterates were most common victims 62 [50.81%].These are consistent with authors[10,12,14].The failure in the life, tolerance to the problems and financial crisis are make them intentional self-poisoning .

Majority of victims belonged to middle socioeconomic group75 [61.47%] .Similar findings are made by authors[10,11,14]. The middle and lower socioeconomic groups are under continuous financial strain and day to day life stress.

As per place of incidence, majority of victims committed self-poisoning at their house 116[95.80%] .Similar findings are made by previous studies[14.] Which indicate that the suicidal-poisoning are generally performed when the patient is alone and committed in surroundings familiar to the victim, particularly in side their house

Most of the victims consumed poison during day time 118 [96.27%] .These are consistent with authors[4,8,10] .This clearly explains that the family members were engaged with their works and the person poisoning had easy assesbility to materials during day time .

Majority of cases were occurred during winter season 64 [52.45%].similar findings were made by authors[8,10,13]. It explains that the agricultural occupation is rain dependent and It shows that the winter season is the most vulnerable for self-poisoning

At time of incidence majority of victims were living as nuclear family 102[83.60%] .Similar findings were noted by author[14.]

Majority of victims were admitted in hospital within 24 hours after self-poisoning106 [86.88%]. 90 [73.99%] cases were survived and 32[26.22%] cases were succumbed to death after 72 hours after self-poisoning. These are consistent with other authors[11,12.]

Self-poisoning was commonest method of suicide in our study particularly using organo phosphorus insecticides 73[59.83%] followed by rodenticides 18[14.75%] and medicinal drug abuse 11[9.01%].Similar findings are made by other authors[8- 14.] In agricultural area insecticides are abundantly used. The Organophosphorus insecticides are easily available and cheaper prices have made them a popular killer agent. There are no laws for sale and storage of insecticides.

The present study found that the major causative factor was caused by domestic problems 62[50.81%] that include spouse/partner, family problems and financial problems 26 [21.31%].Chronic illness was the causative factor behind 10[8.19%] of cases. Psychiatric illness was the causative factor behind 8[6.55%] of cases. These are consistent with other authors[3,6,8,15]. These common causative factors have given rise to emotional crisis leading to self- poisoning. While academic failures resulted in 3 cases, love failure was the causative factor behind of 4 cases and alcohol /drug abuse was the causative factor for 4 cases. These are least common causative factors.

Conclusions

Maximum numbers of suicidal self-poisoning cases were found to be in the age group of 21 to 30 year

Males were affected more often than female, male to female ratio being 2.29:1

Married population outnumbered unmarried population

Most of the victims were from Hindu faith

Maximum Self-poisoning cases were from rural area

Farmers were top among other occupations

Majority of victims were Illiterates

Majority of victims belonged to the middle socioeconomic class

Majority of victims committed self-poisoning inside their homes and during day time and maximum cases occurred during winter season

Majority of victims committed self-poisoning by using organo-phosphorus insecticides

Domestic problems including family conflicts and problems related to financial, chronic illness and psychiatric illness were found to the commonest causative factors for self-poisoning.

Frequent family counseling, help line and psychotherapy for risk group will reduce the incidence

Restrictions of sale, storage and strengthen the legislature about drug and poisons availability that will strengthens the preventive measures

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Table No. 1: choice of poison

Choice of poison	No	%
O P insecticide	73	59.83
Carbamate	8	.6.55
Chlorinated hydrocarbons	6	4.91
Rodenticides	18	14.75
Medicinal drug abuse	11	9.01
Irritants	3	2.45
Plant poisons	2	1.63
Corrosive	1	0.81
Total	122	

Table No. 2: Reasons of self- poisoning

Reasons	No	%
Domestic problems	62	50.81
Financial problems	26	21.31
Chronic illness	10	8.19
Psychiatric illness	8	6.55
Unemployment	4	3.27
Love failure	5	4.09
Academic failure	3	2.45
Alcohol/drug abuse	3	2.45
Reason not known	1	0.81
Total	122	