

## ATTEMPTED SUICIDE IN LUDHIANA

R.L. NARANG, B.P. MISHRA & NITESH MOHAN

### ABSTRACT

*This study assesses the various socio-demographic correlates, the method adopted and the psychiatric disorders in patients with attempted suicide.*

*Out of 208 cases presented to the hospital, one hundred individuals with suicide attempt were included in the present study. They were evaluated for socio-demographic profile and psychiatric illness on the basis of ICD-10 criteria.*

*Analysis of the results showed that single males outnumbered single females, whereas married females outnumbered married males in suicidal attempt. The prevalence of suicidal attempt was high among males with psychiatric illness, whereas more female suicide attempters were without psychiatric illness. The most common psychiatric illnesses were found to be mood disorders (35%) and adjustment disorders (13%) as per the ICD-10 criteria. Family type, economic status and education levels appears to be playing non significant role in suicide attempt in this part of the country. Marital status and psychiatric illnesses are playing important role in suicide attempt. Other demographic variables, though, were statistically non significant, but, below 30 years of age group, low socio-economic status, low education and nuclear families were found to be more vulnerable factors for suicide.*

*Key words : Attempted suicide, socio-economic status, method adopted*

There is a major concern all over the world regarding the rise in attempting suicide in certain population especially among the young. Wide variation have been found in suicidal attempt among different cultures, societies and countries. In developing countries, suicide along with accidents and poisoning form the fifth most common cause of death. Since 1960, the mean death rate from suicide made available to the WHO has remained at about 10 per 100,000 (WHO, 1974). Currently the rate varies from 5 to 40 per 100,000 with high rate recorded in Scandinavian countries. The rate of attempted suicide is 8-10 times more than the completed suicide. In Indian history there are several recorded instances of suicide, especially committed by rajput women to save their dignity when it was in danger. The mass suicide by self-

immolation was called 'johar'. The 'sati' system, which was prevalent in India, is an example of altruistic suicide. In India, there is a suicide rate approximately 12 per 100,000, though different rates were reported in the literature as 38 per 100,000 (Aryappan & Jayadev, 1985), 43 per 100,000 (Venkoba Rao, 1971), 28.57 and 5.1 per 100,000 in two different districts in West Bengal (Nandi et al., 1978). Shukla et al. (1990) studied suicide in Jhansi city over a period of two years. The annual incidence reported in this study was 29 per 100,000 population. Sharma et al. (1993) reported a rate of 22.83 per 100,000 in Warangal district of Andhra Pradesh. The present study was carried out to find out various socio-demographic correlates, the method adopted and the psychiatric disorders associated with suicide.

## MATERIAL AND METHOD

The study was conducted at Dayanand Medical College & Hospital, Ludhiana. Ludhiana is the biggest, densely populated city of Punjab with a number of adjoining villages. The city has a number of private hospitals and two hospitals attached to two medical colleges, to provide medical care to patients. The present study was conducted between August 1996 and October, 1997 in which a total of 208 cases presented with attempted suicide. Out of these 208 cases, 28 ultimately died. Of the remaining 180 surviving cases, 80 patients who were physically ill to undergo detailed interview and those who initially admitted the suicide attempt but later denied it because of various reasons, were excluded. After getting the information regarding the socio-demographic variables of remaining 100 cases, detailed interview with patients and their family members was conducted to assess the associated psychiatric illness, if any, on the basis of ICD-10 criteria.

## RESULTS

The overall mean age of the sample was found to be  $25.11 \pm 8.17$ . There were more males (58%) than females (42%) with a mean age of  $24.74 \pm 8.55$  for males and  $25.61 \pm 7.58$  for females (table 1).

Subjects between 20-29 years constituted 41% of the sample with another 32% below 20 years making a total of 73% of them below 30 years. There were 22% in the age group of 30-39 years and only 5% were above the age of 40 years. The age distribution in the two sexes were not significantly different ( $X^2=1.07$ ,  $p>0.05$ ).

TABLE 1  
AGE AND SEX WISE DISTRIBUTION OF  
THE SAMPLE

Age (in yrs)	Male (n=58)		Female (n=42)		Total (n=100)
	n	%	n	%	
upto 20	21	36.2	11	26.2	32
21-29	22	37.9	19	45.2	41
30 & above	15	25.9	12	28.6	27

$X^2=0.09$ , d.f.=2, N.S.

The representation in this study from urban areas was more i.e. 64%, as compared to rural population 36% (table 2). However no statistically significant difference was observed between the two sexes according to domicile ( $X^2=1.48$ , N.S.). The total sample comprised of 30% of housewives among females being the largest group. The second biggest group was formed by students i.e. 27%. The rest comprised of shop-owners, skilled workers, farmers and unemployed (table 3). The observation showed 35% of the subjects were from low socio-economic group with income less than Rs.1600 per month and a total of 30% below Rs.3200 per month. Only 9% subjects had income more than Rs.6400 per month (table 4,  $X^2=4.07$ , N.S.). Almost all the subjects, except 3% had some

TABLE 2  
URBAN-RURAL DISTRIBUTION OF  
THE SAMPLE

	Male (n=58)		Female (n=42)		Total (n=100)
	n	%	n	%	
Urban	40	69.0	24	57.1	64
Rural	18	31.0	18	42.9	36

$X^2=1.48$ , d.f.=1, N.S.

TABLE 3  
OCCUPATION WISE DISTRIBUTION OF  
THE SAMPLE

Occupation	Male (n=58)		Female (n=42)		Total (n=100)
	n	%	n	%	
House wives/ Households	--	--	30	71.4	30
Students	16	27.6	11	26.2	27
Shop owners	13	22.4	--	--	13
Skilled workers	9	15.5	--	--	9
Unemployed	8	13.8	--	--	8
Farmers	7	12.1	--	--	7
Others	5	8.6	1	2.4	6

TABLE 4  
INCOME WISE DISTRIBUTION OF  
THE SAMPLE

Income per month (Rs.)	Male (n=58)		Female (n=42)		Total (n=100)
	n	%	n	%	
upto 1600	25	43.1	10	23.8	35
1600-3199	15	25.9	15	35.7	30
3200-6399	14	24.1	12	28.6	26
6400 & above	4	6.9	5	11.9	9

$X^2=4.07$ , d.f.=3, N.S.

## ATTEMPTED SUICIDE IN LUDHIANA

schooling with majority of them at equivalent to or higher than matriculation (73%). This finding was again found to be statistically non significant (table 5,  $X^2=0.41$ , N.S.). As for as marital status is concerned, single males out-numbered the single females significantly, in contrast to married group, where female percentage was more (table 6,  $X^2=8.05$ ,  $p<0.01$ ). Family type did not contribute any significant role between male and female suicidees (table 7,  $X^2=1.48$ , N.S.). Poisoning was the predominantly used method (91%) as compared to other methods. Out of these 91 subjects, 77 used insecticides including 33 of aluminium phosphide, 24 of organo-phosphorus compounds (OPC), 20 other insecticides like DDT or other unidentified chemicals. There were few subjects who chose psycho-pharmacological agents and other chemicals like copper sulphate (table 8). Of the total sample, 57% subjects were found to have been suffering from a psychiatric illness. Male subjects out numbered females significantly ( $X^2=8.21$ ,  $p>0.01$ , table 9). The most common

**TABLE 5**  
EDUCATION WISE DISTRIBUTION OF THE SAMPLE

Education	Male(n=58)		Female(n=42)		Total (n=100)
	n	%	n	%	
Below matric	17	29.3	10	23.8	27
Matric	17	29.3	14	33.3	31
Above matric	24	41.4	18	42.9	42

$X^2=0.41$ , d.f=2, N.S.

**TABLE 6**  
DISTRIBUTION ACCORDING TO MARITAL STATUS OF THE SAMPLE

Status	Male(n=58)		Female(n=42)		Total (n=100)
	n	%	n	%	
Single (unmarried)	36	62.1	14	33.3	50
Married	22	37.9	28	66.7	50

$X^2=8.05$ , d.f=1,  $p<0.01$

**TABLE 7**  
DISTRIBUTION OF THE SAMPLE ACCORDING TO FAMILY TYPE

Family Type	Male(n=58)		Female(n=42)		Total (n=100)
	n	%	n	%	
Nuclear	40	69.0	24	57.1	64
Joint	18	31.0	18	42.9	36

$X^2=1.48$  d.f=1, N.S.

psychiatric disorders were found to be mood disorders (35%), adjustment disorders (13%), substance dependence and schizophrenia 3% each and 1% each of personality disorder, panic disorders and dissociative disorders (table 10).

**TABLE 8**  
DISTRIBUTION ACCORDING TO THE METHOD USED FOR SUICIDE

Method used	Male(n=58)		Female(n=42)		Total (n=100)
	n	%	n	%	
Poisoning	53	91.4	38	90.5	91
a) Aluminium phosphide	23		10		33
b) Organophosphorus compounds	11		13		24
c) Others	19		15		34
Others	5	8.6	4	9.5	9

$X^2=0.039$ , d.f=1, N.S.

**TABLE 9**  
PRESENCE OR ABSENCE OF PSYCHIATRIC DISORDERS IN THE SAMPLE

Subjects	Male(n=58)		Female(n=42)		Total (n=100)
	n	%	n	%	
Without psychiatric illness	18	31.0	25	59.5	43
With psychiatric illness	40	69.0	17	40.5	57

$X^2=8.21$ , d.f=1,  $p<0.01$

**TABLE 10**  
MAIN PSYCHIATRIC DISORDERS FOUND IN THE SAMPLE

Psychiatric Disorders	ICD-10	Male(n=58)		Female(n=42)		Total (n=100)
		n	%	n	%	
Mood disorders	F-31& F-32	26	44.8	9	21.4	35
Adjustment disorder	F-43.2	6	10.4	7	16.7	13
Substance dependence	F-10.2 & F-11.2	3	5.2	0	--	3
Schizophrenia	F-20	2	3.5	1	2.4	3
Personality disorder	F-60.3	1	1.7	--	--	1
Panic disorder	F-41.0	1	1.7	--	--	1
Dissociative						
Trans	F-44.3	1	1.7	--	--	1

## DISCUSSION

The total study sample of 100 individuals who attempted suicide, but survived, comprised of 58 males and 42 females. The ratio of completed to attempted suicide in this study was found to be 1.7.4, which confirms the findings

reported by Venkoba Rao & Madhavan (1983) of 1.7 in the elderly and 1.8-10 in western countries (Roy, 1995). We have noticed in our study that below 30 years of age group (73%) was dominating the sample (table 1), though this was statistically non-significant, but this was due to the very fact that male and female subjects appeared in the sample were of same ratio across the groups, this kind of trend confirms the findings reported by Satyawathi & Murti (1961); Venkoba Rao (1971), WHO (1974), McClure (1984). Studies with significantly large sample can give more comprehensive trend in this area. In this study males outnumbered the females (58 vs 42), a ratio of 1.3:1, which is in concurrence with findings of other Indian studies in the past (Venkoba Rao, 1965; Satyawathi & Murti, 1961), but failed to reach up to the statistically significance level.

There were more subjects from urban areas (64%) than rural background (36%), but this can be attributed to the fact that the Dayanand Medical College, Ludhiana, is a referral hospital located in a big urban city and gets more patients in casualty from the city than the rural areas.

The marital status was found to be significant factor in present study, where, more single males and more married females were admitted with suicidal attempt. This finding was again in concurrence with the findings reported in the literature (Venkoba Rao, 1965; Sethi *et al.*, 1978; Gupta & Singh, 1981; Ponnudurai *et al.*, 1986) where, more unmarried subjects found to be vulnerable for suicide and in contrast to the findings reported by Lal & Sethi (1975) who found more married persons in their study, but failed to correlate these findings with gender distribution.

There were 57% subjects who had some psychiatric illness co-existing with suicidal attempt, compared to 43% without any psychiatric illness as per the ICD-10 criteria. The male with psychiatric illness were dominating significantly than males without psychiatric illness, whereas females without psychiatric illness were significantly more in comparison to females with psychiatric illness. This shows that psychiatric

illness are playing important role in male suicidal attempt whereas there is no role of psychiatric illnesses in female suicidal attempt.

The poisoning was the most commonly used method (91%), as compared to other methods. The other studies have also reported poisoning as the commonest method used for suicide (Badrinarayana, 1977; Hegde, 1980; Ponnudurai *et al.*, 1986; Sharma, 1998). Aluminium phosphide which is used to store wheat grains and is available in tablet form, is easily available in this part of the country was the most common substance used by the subjects in the present study.

Thus it can be concluded from the present study that marital status and psychiatric disorders were playing very significant role in suicidal attempt. Majority of subjects come from urban areas and lower socio-economic groups with nuclear families, where stress is presumably more and coping mechanisms are limited and possibly inadequate, are at high risk. Finally, education does not help to reduce the suicide risk, but on contrary, it may increase the dilemma of the purpose of life itself.

## REFERENCES

- Aiyappan, A. & Jayadev, C.J. (1958) Society in India. Madras : Social science publication.
- Badrinarayana, A. (1977) Suicide attempt in Gulberga. *Indian Journal of Psychiatry*, 19, 69-70.
- Gupta, S.C. & Singh, H. (1981) Psychiatric illness in suicide attempters. *Indian Journal of Psychiatry*, 23, 69-74.
- Hegde, R.S. (1975) Suicide in Rural Community. *Indian Journal of Psychiatry*, 17, 100-107.
- Lal, N. & Sethi, B.B. (1975) Demographic and socio-economic variables in attempted suicide by poisoning. *Indian Journal of Psychiatry*, 17, 100-107.

## ATTEMPTED SUICIDE IN LUDHIANA

**McClure,G.M.G.(1984)** Recent trends in suicide amongst the young. *British Journal of Psychiatry*, 144, 134-138.

**Nandi,D.N., Banerjee,G. & Boral, G.C. (1978)** Suicide in West Bengal : A century apart. *Indian Journal of Psychiatry*, 20, 155-60.

**Ponnudurai,R., Jeyakar,J. & Saraswati, M. (1986)** Attempted suicide in Madras. *Indian Journal of Psychiatry*, 28, 59-62.

**Roy,A.(1995)** Suicide. In: *Comprehensive Textbook of Psychiatry*, Edn.6, (Eds.) Kaplan, H.I. & Saddock,B.J., pp1739-1752.

**Satyawathi,K. & Murti,R.(1961)** A study of suicide in Bangalore. *Tran All India Institute of Mental Health*, Bangalore, 2, 1.

**Sethi,B.B., Gupta,S.C. & Singh, H. (1978)** Psychological factors and personality characteristics in cases of attempted suicide *Indian Journal of Psychiatry*, 20, 25-30.

**Sharma,R.C.(1998)** Attempted suicide in Himachal Pradesh. *Indian Journal of Psychiatry*, 40, 1, 50-54.

**Sharma,P.G. & Sawang,D.G.(1993)** Suicide in rural areas of Warangal district. *Indian Journal of Psychiatry*, 3, 79-84.

**Shukla,G.D., Verma,B.L. & Mishra,D.N. (1990)** Suicide in Jhansi city. *Indian Journal of Psychiatry*, 32, 44-51.

**Venkoba Rao,A.(1965)** Attempted suicide. *Indian Journal of Psychiatry*, 7, 253.

**Venkoba Rao, A. (1971)** Suicide attempters in Madurai. *Journal of Indian Medical Association*, 57, 278.

**Venkoba Rao,A. & Madhavan,T.(1983)** Depression and suicide behaviour in aged. *Indian Journal of Psychiatry*, 25, 251-259.

**World Health Organization (1974)** Suicide & attempted suicide in young people. Geneva : WHO.

---

R L. NARANG\*, Professor & Head. B.P.MISHRA, Lecturer, Clinical Psychology & NITESH MOHAN, P.G.Registrar, Department of Psychiatry, Dayanand Medical College & Hospital, Ludhiana-141 001.

\* Correspondence