

## A study of psycho-socio-demographic variables of suicide attempters in hilly areas of Uttarakhand

Upadhyaya SK<sup>1</sup>, Gupta S<sup>2</sup>, Sharma A<sup>3</sup>, Joshi A<sup>4</sup>

<sup>1</sup>Assistant. Professor, Psychiatry, <sup>2</sup>Associate Professor, Community Medicine, <sup>3</sup>Assistant Professor, Obstetrics and Gynaecology, <sup>4</sup>Junior Resident, Psychiatry, VCSG Govt. Medical Science & Research Institute, Srinagar, Garhwal, Uttarakhand.

### ABSTRACT

Suicide is a complex, yet preventable public health problem resulting from multiple factors. The number of suicides in the country during the decade (1999–2009) has recorded an alarming increase of 15% (NCRB). Data of suicide attempters show predominance of females, unemployed, singles and those suffering from major medical or psychiatric illness. Present study was carried out to assess various factors in suicide attempters in subhimalayan zone of Uttarakhand.

#### Objectives:

- 1) To assess the role of psycho-socio-demographic variables including past history, precipitating factors and mode of attempt.
- 2) To make the psychiatric diagnosis of suicide attempters.

**Study Design:** Cross sectional study.

**Setting:** Teaching hospital of VCSG Government Medical Science and Research Institute, Srinagar garhwal, Uttarakhand.

**Participants:** 50 cases of suicidal attempters who attended the teaching hospital. Sample size was kept 50 as frequency of suicide attempters reaching to this hospital is not very high because this is in a hilly area with sparse population.

**Study duration :** May 2011 to Nov 2011

**Results :** Total 50 cases of suicidal attempters were inquired. Suicidal attempts were found maximum (60%) in the group 21 to 40 years in both males and females. House wives and unemployed men were most prone to suicides. Females from joint families attempted suicide significantly more than from nuclear families. History of depression in females and history of substance abuse in family members were important predictors for suicidal attempt. Family quarrels and marital disharmony were most common factors and poisoning was mostly common method for suicidal attempts in both sexes.

**Key words:** Attempted suicide, risk factor, methods, socio-demographic variables.

**Introduction:** The number of suicide attempts in developing countries has been increasing progressively. More than one lakh persons (1,27,151) in the India lost their lives by committing suicide during the year 2009. The number of suicides in the country during the decade (1999–2009) has recorded an increase of 15.0 % (NCRB)<sup>1</sup>. Therefore it is an important medical emergency with psychiatric implications. Psychiatric evaluation of this problem is very important, as it will help in prevention and also the management of this health hazard. The present study was conducted in a teaching hospital of Uttarakhand, catering to a large and mostly hilly area. The study was conducted to find out various

psycho-socio-demographic variables, precipitating factors and mode of attempt of suicide.

### Material and Methods:

Consecutive 50 cases of suicidal attempt referred from medical, surgical or emergency departments were taken up for the study. All suicidal attempters are usually referred for psychiatric evaluation at our centre. This study took place from May 2011 to Nov. 2011. After taking informed consent a detailed enquiry was made from patient and attendant by using a specially designed performa which included sociodemographic details of patient and family, history of substance abuse, psychiatric illness, medical illness or suicidal attempt

#### Address for Correspondence:

SK Upadhyaya, Assistant Professor, Psychiatry, VCSG Govt. Medical Science & Research Institute, Srinagar, Garhwal, Uttarakhand.  
E Mail ID: dr\_suneet12@yahoo.com

in patient or family. Method of suicidal attempt, and precipitating factors were also enquired. Each individual subjected to detailed physical assessment and psychiatric evaluation.

### Results:

Age group of 21-30 was dominating in both males and females and 62% of subjects were of 21-40 years age group (Table-1). Number of female and male suicide attempters was 38 (76%) and 12 (24%) respectively. 80% suicidal attempters were married & only 20% single. 60% cases were educated below secondary level. 76% cases were from the families having family income less than 10000 per month as compared to 24% from families with family income >10000 per month. Majority of subjects were from joint families (76%). On occupational analysis housewives dominated clinical picture in females while majority of males were unemployed. Together they contributed 62% share in suicide attempters. (table-1)

Personal history of suicidal attempt, psychiatric illness, physical illness & drug abuse was present in 10%, 22%, 18% & 14%, cases respectively. Family history of suicide attempt, psychiatric illness, physical illness & substance abuse was present in 40% of cases while in 60% cases no such kind of family history was present. Diagnosis of anxiety or depression disorder was made in one male (8.3%) and 16 females (42.1%) while schizophrenia diagnosed in three males (25%). (table-3)

Family quarrel and marital disharmony were responsible for 68% suicide attempters. Organophosphates poisoning was commonest method causing 78% suicide attempts while 14% patients used their or family member's medicines for the purpose. Four cases (8%) attempted suicide by jumping into Alaknanda River. Other methods of suicidal attempt like burning, hanging, jumping from height were not reported by any subject. (table-4)

**Table-1** Distribution of cases according to socio-demographic factors

Age	Male (N=12)	Female (N=38)	Total (N=50)
< 20	2(16.66%)	4(10.52%)	6(12%)
21-30	5(41.7%)	14(36.8%)	19(38%)
31-40	2(16.7%)	10(26.3%)	12(24%)
41-50	2(16.7%)	5(13.1%)	7(18%)
51-60	1(8.3%)	3(7.8%)	4(8%)
>60	0	2(5.3%)	2(4%)
Marital status	Male (N=12)	Female (N=38)	Total (N=50)
Married	7(58.3%)	33(86.8%)	40(80%)
Single	5(41.7%)	05(13.2%)	10(20%)
Education	Male (N=12)	Female (N=38)	Total (N=50)
Less than secondary	4(33.3%)	26(68.4%)	30(60%)
Secondary or more	8(66.7)	12(31.6%)	20(40%)
Occupation	Male (N=12)	Female (N=38)	Total (N=50)
Housewives	-	22(57.89%)	22(44%)
Self employed/ business	1(8.33%)	2(5.26%)	3(6%)
Office work	3(25%)	2(5.26%)	5(10%)
Student	2(16.67%)	4(10.53%)	6(12%)
Farmer/ labourer	-	5(13.16%)	5(10%)
Unemployed	6(50%)	3(7.89%)	9(18%)
Religion	Male (N=12)	Female (N=38)	Total (N=50)
Hindu	12(100%)	36(94.7%)	48(96%)
Muslim	-	2(5.3%)	2(4%)
Family type	Male (N=12)	Female (N=38)	Total (N=50)
Joint	6(50%)	32(84.2%)	38(76%)
Nuclear	6(50%)	6(15.8%)	12(24%)
Family income/ month	Male (N=12)	Female (N=38)	Total (N=50)
<5000 Rs	8 (66.7%)	18(47.4%)	26(52%)
5000-10000	2 (16.7%)	10(26.3%)	12(24%)
10000-20000	1 (8.3%)	8(21.0%)	9(18%)
>20000	1 (8.3%)	2(5.3%)	3(6%)

**Table 2:** Distribution according to personal and family history

<b>Personal history</b>	<b>Male (N=12)</b>	<b>Female (N=38)</b>	<b>Total (N=50)</b>
Past H/o Suicidal attempt	1(8.3%)	4(10.5%)	5(10%)
Past H/o Psychiatric illness	3(25%)	8(21.0%)	11(22%)
Past H/o Physical illness	-	9(23.6%)	9(18%)
Past H/o Substance/drug abuse	7(58.33%)		7(14%)
No Personal History	1(8.33%)	17(44.74%)	18(36%)
<b>Family history</b>	<b>Male (N=12)</b>	<b>Female (N=38)</b>	<b>Total (N=50)</b>
Family H/o suicidal attempt	-	1(2.6%)	1(2%)
Family H/o Psychiatric illness	1(8.33%)	2(5.3%)	3(6%)
Family H/o Physical illness	1(8.33%)	3(7.9%)	4(8%)
Family H/o substance/drug abuse	-	12(31.5%)	12(24%)
No Family History	10(83.33%)	20(52.6%)	30(60%)

**Table-3-**Distribution of cases according to ICD-10 diagnosis

<b>Diagnosis</b>	<b>Males (N=12)</b>	<b>Females(N=38)</b>	<b>Total(50)</b>
Anxiety or Depression	1(8.3%)	16(42.1%)	17(34%)
Schizophrenia/psychotic disorder	3(25%)	-	3(6%)
Others	-	1(2.6%)	1(2%)
No psychiatric illness	8(66.7)	21(55.3)	29(58%)

**Table 4-** Distribution according to precipitating factors and methods of suicidal attempts

<b>Precipitating factors</b>	<b>Males (N=12)</b>	<b>Females (N=38)</b>	<b>Total (50)</b>
Family quarrels	4(33.3%)	18(47.4%)	22(44%)
Educational	2(16.7%)	4(10.5%)	6(12%)
Marital disharmony	3(25%)	9(23.7%)	12(24%)
Physical illness	-	2(5.2%)	2(4%)
Psychiatric illness	2(16.7%)	3(7.9%)	5(10%)
Financial	1(8.3%)	-	1(2%)
Others	-	2(5.2%)	2(4%)
<b>Methods</b>			
Poisoning	9(75%)	30(78.9%)	39(78%)
Drug overdose	1(8.3%)	6(15.8%)	7(14%)
Drowning	2(16.7%)	2(5.3%)	4(8%)

## Discussion:

In the present study suicide attempters were generally young, 25 (50%) cases were under 30 years of age. Many Indian researchers as Venkoba RA<sup>2</sup>, Sethi et al<sup>3</sup>, and Gupta & Singh<sup>4</sup> have found age of 20-30 years as most risky age group for suicide attempts. Number of females attempting suicide was more than three times to males. This difference acquires even greater significance when viewed in light of fact that according to census 2011<sup>5</sup> there are 963 females for 1000 males in Uttarakhand. Shukla GD et al<sup>6</sup> and Weissman<sup>7</sup> had also observed that females attempt suicide more often than males. In contrast Ponnudurai<sup>8</sup> and Sathyavathi<sup>9</sup> found more male preponderance in their studies.

Share of married people in suicide attempters was more than unmarried, separated and widowed in contrast to reflections in standard literature<sup>10</sup> although this may reflect their higher proportion of married people in community.

Majority of female attempters were house wives. Sharma RC<sup>11</sup> also found house wives as commonest category (32%). It is also in line with perception that housewives are subjected to more household stresses than working women especially emotional components. Tosuignant and Mishra<sup>12</sup> observed that attack on ego by family stressors and unavailability of anger outlets for women account for many suicides. After housewives second largest category was of unemployed. Unemployment is a known risk factor in suicide attempts<sup>13,14</sup>. In a highly competitive environment being unemployed is extremely stressful. Migration for job from hilly areas i.e. catchment area for this study, to plains is a well known fact.

In the present study number of suicide attempters from joint families was three times more in comparison to those from nuclear families. In contrast Narang RL<sup>15</sup> et al found more suicide attempts in nuclear (64%) families in comparison to joint (33%) families. Gender analysis revealed that from even from joint families females attempted suicide significantly more than males. One explanation is that females in joint families are more exposed to quarrels which are the most common precipitating factor in females.

Number of females having family history of substance abuse was significantly more than males. Reason for depression in many females is substance abuse by husbands and then physical torture.

Out of 4 males suffering from psychiatric illness three had schizophreniawhile out of 17 females suffering from psychiatric illness 16 had anxiety or depression

disorder. On gender comparison it was observed that females had significantly more anxiety or depression disorder than males. Of these 16 females only eight were already diagnosed to have depression which might be due to unawareness or poor family care of those females. This is an important observation which denotes very high stress level in females which makes them depressed leading to suicidal attempt. Bhatia et al<sup>16</sup>, and Kar N<sup>17</sup> et al have found depression as most common diagnosis in majority of suicide attempters.

Family quarrels were found to be most important precipitating factor (44%) followed by marital disharmony. Sharma RC<sup>9</sup> also found family quarrels (quarrels with spouse/in-laws- 13.4% and quarrels with parents/siblings-12%) as most important precipitating factor. Similarly Sethi et al<sup>3</sup> and Ponnudurai et al<sup>8</sup> observed that quarrels and scolding are most common determinants of suicidal attempts.

Poisoning with organophosphates was most commonly used method for suicidal attempt followed by drug overdose and then drowning. Easy availability of organophosphates was the determining factor. This finding is in line with earlier observations by Venkoba RA<sup>2</sup>, Reich et al<sup>18</sup>, Burger LR<sup>19</sup>, Daradkeh TK<sup>20</sup>, Badrinarayana A<sup>21</sup> and Sato et al<sup>22</sup>. In our study four cases attempted suicide by jumping into Alakanda river. Probably this was due to easiest method available in impulsive moments of emotional turmoil. We didn't find any patient using other means of suicidal attempt like burning, hanging, etc. Probably use of these methods is either uncommon in this zone or those using these methods had not survived.

We conclude in this study that suicide attempts in this region are mostly by females who are prone to constant stress for various reasons most importantly substance abuse and then misbehave by husband. This study has limitation of sample size, as a longer duration study with larger sample size has more ability to draw generalized conclusions.

## References:

1. NCRB Accidental Deaths & Suicides in India – 2009. <http://ncrb.nic.in/CD-ADSI2009/suicides-09.pdf>, accessed on 09/11/2011.
2. Venkoba RA. Suicide attempters in Madurai. *Journal of Indian Medical Association*. 1971; 57: 278-84.
3. Sethi BB, Gupta SC, Singh H. Psychosocial factors and personality characteristics in cases

- of attempted suicide. *Indian J Psychiatry*. 1978; 20: 25-30.
4. Gupta SC, Singh H. Psychiatric illness in suicide attempters, *Indian J Psychiatry*. 1981; 23: 59-74.
  5. Uttarakhand population census. <http://www.census2011.co.in/census/state/uttarakhand.html>. Accessed. on 03-03-2012.
  6. Shukla GD, Verma BL, Mishra DN. Suicide in Jhansi City. *Indian J Psychiatry*. 1990; 32: 44-51.
  7. Weissman MM. The epidemiology of suicide attempts(1960-1971). *Archives of general psychiatry*. 1974; 30: 737-46.
  8. Ponnudurai R, Jayakar J, Saraswathy M. Attempted suicide in madras. *Indian J Psychiatry*. 1986; 28: 59-62.
  9. Sathyakathi K. Attempted suicide in psychiatric patients. *Indian J Psychiatry*. 1971; 13: 37-46.
  10. Sharma RC. Attempted suicide in Himachal Pradesh. *Indian J Psychiatry*. 1998; 40: 50-4.
  11. Roy A. Suicide. In: Kaplan HI, Sadock BJ, editor. *Comprehensive text book of Psychiatry*, 6<sup>th</sup> ed. Baltimore, Williams and Wilkins. 1995; 1739-52.
  12. Tousignant M, Mishra BL. Suicide and culture, a review of literature(1969-1980). *Transcultural psychiatric research review*. 1981; 18: 5-32.
  13. Platt S. Unemployment and suicidal behaviour: A review of literature. *Soc Sci Med*. 1984; 37: 169-75.
  14. Bagadia VN, Ghadiali HN, Shah LP. Unemployment and attempted suicide. *Indian J Psychiatry*. 1976; 18: 131-9.
  15. Narang RL, Mishra BP, Mohan N. Attempted suicide in Ludhiana. *Indian J Psychiatry*. 2000; 42: 83-7.
  16. Bhatia MS, Aggarawal NK, Aggarwal BB. Psychosocial profile of suicide ideators, attempters and completers in India. *Int J Soc Psychiatry*. 2000; 46: 155-63.
  17. Kar N, Khatavakar P. Risk factors associated with suicidal behaviour in depressed patients. *Orissa Journal of Psychiatry*. 2005; 14: 38-43.
  18. Reich GA, Davis JH, Davis JE. Pesticied poisoning in south florida. *Archieves of environmental health*. 1968; 17: 768-75.
  19. Berger LR. Suicides and pesticides in Sri Lanka. *American J public health*. 1998; 78: 826-28.
  20. Darakeh TK. Suicide in Jordan(1980-1985). *Acta Psychiatrica scandinavica*. 1989; 79: 241-44.
  21. Badrinarayana A. Suicide attempt in Gulbarga. *Indian j Psychiatry*. 1977; 19: 69-70.
  22. Sato T, Takeichi M, Hara T. Suicide attempts by agricultural chemical. *Indian J Psychiatry*. 1993; 35: 209-10.