

PSYCHIATRIC COMORBIDITY IN SUICIDE ATTEMPTERS: INDIAN SCENARIO**Alok Ghanate^{1*}, R.S Deepak², Venakesh Patil³, Rajeshwari Surpur⁴, Anitha M R⁵, Vijayanath.V⁶**¹*Department of Psychiatry, M.R.Medical College, Gulbarga, Karnataka.*²*Senior Resident, Katuri Medical College, Guntur, Andhra Pradesh.*³*Department of Pharmacology, Navodaya Medical College, Raichur, Karnataka.*⁴*Department of Microbiology, Navodaya Medical College, Raichur, Karnataka.*⁵*Department of Anatomy, VMKV Medical College & Hospital, Salem, Tamil Nadu.*⁶*Department of Forensic Medicine & Toxicology, VMKV Medical College & Hospital, Salem, Tamil Nadu.***ABSTRACT**

Suicide is a complex, multidimensional phenomenon that has been studied from philosophical, sociological, and clinical perspective. The study is conducted in a tertiary care multi-specialty teaching hospital, which is of Cross sectional in nature and 100 consecutive patients of suicide attempt being admitted. Suicidal attempt was commonly seen in unmarried male. Housewives and student formed majority in the study. Poisoning (73%) was the most common method used for suicidal attempt, followed by drug overdose (21%). Benzodiazepine was most commonly used drug for overdose. Most of the patients attributed interpersonal problems (74%) as the reason for their suicidal attempt. Patients of alcohol dependence syndrome used more lethal modes of suicidal attempt even though scoring low on hopelessness and suicidal intent scale attributed to intoxicated state during the attempt.

KEY WORDS*Psychiatry; Suicide.***INTRODUCTION**

Suicide is a complex, multidimensional phenomenon that has been studied from philosophical, sociological, and clinical perspective; A student kills himself to escape the ignominy of exam failure. A woman burns herself to escape daily harassment by in-laws over inadequate dowry. Finance Dealer ends his life to fend off the horde of creditors. The scion of an industrial empire kills himself after an uneasy marital relationship. More than 4,00,000 people commit suicide all around the world every year. It is amongst the top ten causes of death for all ages in most countries of the world. In some, it is amongst the top three causes of death in the younger age group (15-34 years). Moreover, it is the second most important cause of death in the

age-group 15-19 yrs., second only to vehicular accidents.

Moreover, this is the figure of successful suicides. Attempted suicides are around ten times the figure i.e. 80,00,000 people attempt suicide, out of which 8,00,000 succeed in ending their lives. Attempted suicides involve a great effort on the part of medical and paramedical professionals and health care delivery systems, the immediate caregivers, the NGOs, and society at large to manage this colossal burden of morbidity and mortality. Moreover, research studies have found that 1-2% of attempted suicides become successful suicides every year. This means 10-20% attempted suicides will end their lives in a decade. Consider the Indian scenario, as elsewhere; suicide is amongst the top ten causes of death here, and amongst the

top three between the ages 16-35 years. While in 1984 around 50,000 people committed suicide (50,571, i.e. 6.8 per lakh), in 1994 this figure rose to 90,000 (89,195 i.e. 9.9 per lakh). At present we have nearly a lakh Indians dying of suicide every year, which is 20% of the world suicide population: another dubious distinction for this country, beside the population explosion. In last two decades, the suicide rate has increased from 7.9 to 10.3 per 1, 00,000. There is wide variation within the country. Southern states of Kerala, Karnataka, Andra Pradesh, Tamil Nadu have a suicide rate of >15, while in Northern states of Punjab, Bihar, Uttar Pradesh and Jammu and Kashmir, its <3. This variable pattern has been stable for last twenty years. Higher literacy, better reporting system, lower external aggression, higher socio-economic status and higher expectation are possible explanation for the higher suicide rates in Southern states.

AIMS & OBJECTIVES

- Nature of psychiatric morbidity in individuals who are admitted in a general hospital with

attempted suicide and socio-demographic characteristic of these subjects.

- Examine the severity of suicidal intent, lethality, hopelessness in patients with suicidal attempt. And elicit the stressors, a year prior and a month prior to the suicidal attempt.

MATERIALS & METHOD

The study is conducted in a tertiary care multi-specialty teaching hospital, which is of Cross sectional in nature and 100 consecutive patients of suicide attempt being admitted during the period of June 2006 To May 2007.

The study was conducted in multi specialty hospital during the period of one year.

Inclusion criteria: All patients of 16yrs of age and above. Patients admitted for treatment of attempted suicide whose physical condition was stable & could undergo detailed assessment.

Exclusion criteria: Patients who refused to give consent. Patients who were critically ill and / or medically unstable that an interview was not possible.

RESULTS

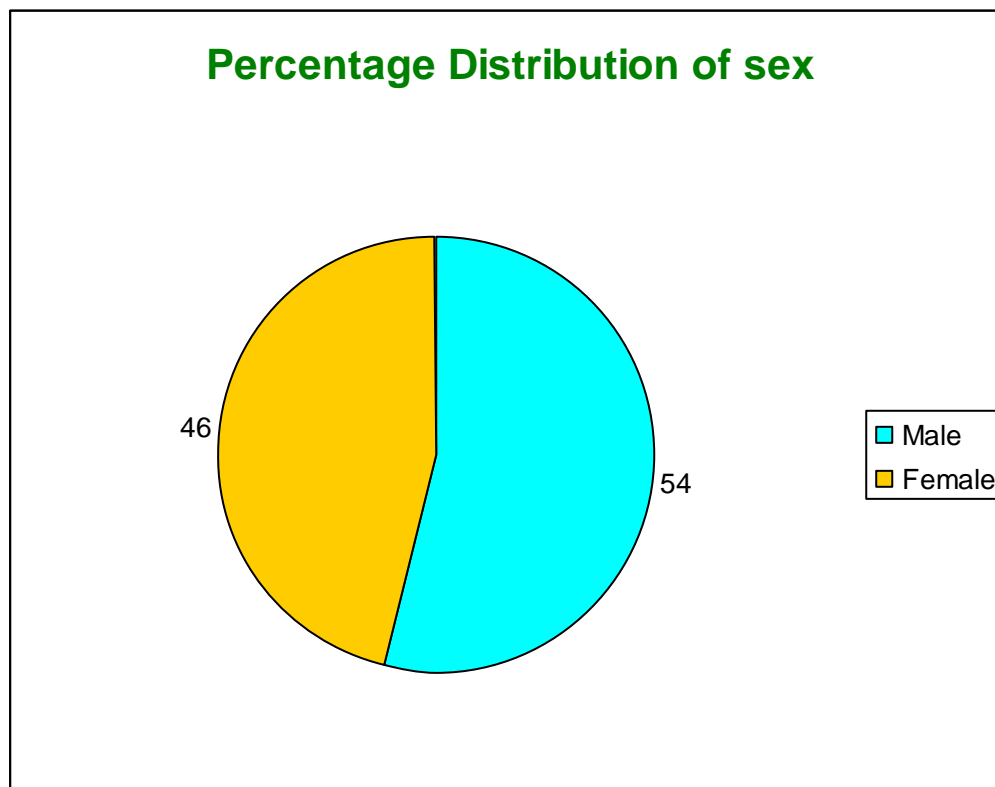
AGE

Table 1: Frequency distribution of data by age group (n=100)

AGE-GROUP	FREQUENCY	PERCENTAGE
15-20	10	10.0
21-25	28	28.0
26-30	32	32.0
31-35	16	16.0
36-40	4	4.0
41-45	3	3.0
46-50	4	4.0
51-55	2	2.0
56-60	1	1.0
TOTAL	100	100

Mean age of the sample was 28.35 years (± 8.29). The youngest patients were sixteen years of age. The oldest patient was fifty-seven years of age. Majority of patients, 70% belonged to 15 – 30 years of age group.

SEX



Of 100 patients, 54 were male and 46 were female. This shows suicidal attempts were more common in males than females.

MARITAL STATUS

Table 2: Frequency distribution of data by marital status (n=100)

VARIABLES	FREQUENCY	PERCENTAGE
UNMARRIED	55	55
MARRIED	35	35
OTHERS	10	10
TOTAL	100	100

55% of study population was constituted by unmarried patients, 35% were married and 10% belonged to others (separated, divorced and widowed)

SOCIO – ECONOMIC STATUS

The socio-economic status was assessed depending on

1. Education
2. Per capita monthly family income

3. Occupation.

EDUCATION

Table 3: Frequency distribution of data by education (n=100)

VARIABLES	FREQUENCY	PERCENTAGE
NIL	0	0
PRIMARY SCHOOL	20	20.0
HIGH SCHOOL	41	41.0
INTERMEDIATE	25	25.0
GRADUATE	14	14.0
TOTAL	100	100

All patients had some form of formal education. 61% of the patients had education below intermediate and 39% educated above intermediate.

ECONOMIC STATUS:

Table 4: Monthly income of family (n=100)

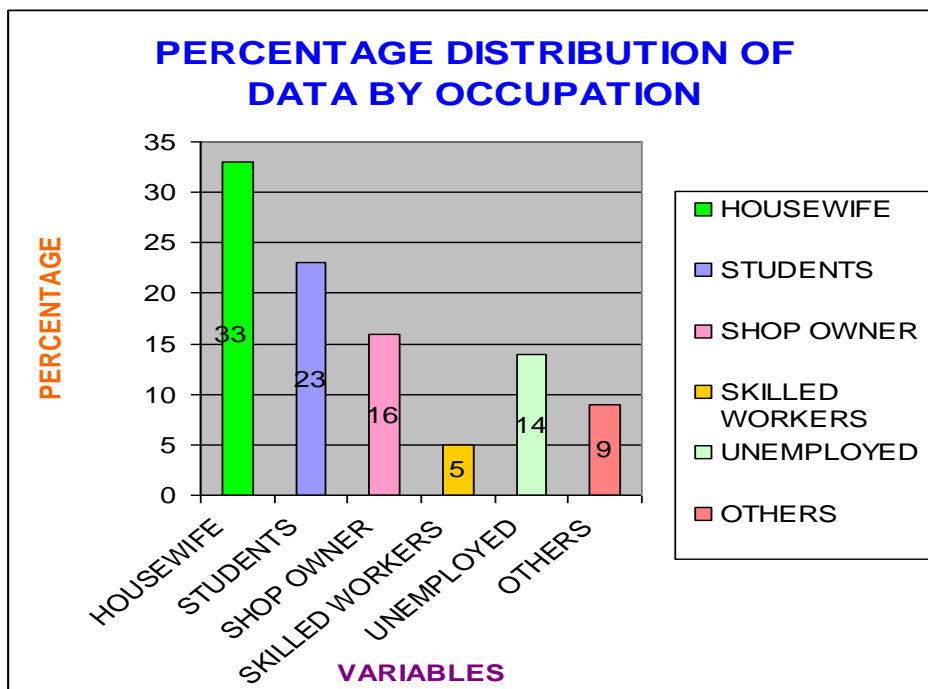
S/NO.	SOCIAL CLASS	NUMBER OF PATIENTS
1.	Higher (≥ 1000 /head/ month)	29
2.	Higher middle (500 – 999)	57
3.	Middle (300 – 499)	14
4.	Lower middle (150 – 299)	0
5.	Lower (< 150)	0

Most of the patients (86%) belonged to higher (29%) and higher middle (57%) class according to modified Prasad's scale. 14 (14%) patients were from middle socio economic class.

Socio-economic factor and unemployment in aetiology of suicide have been recognized as important. Employment status directly reflects

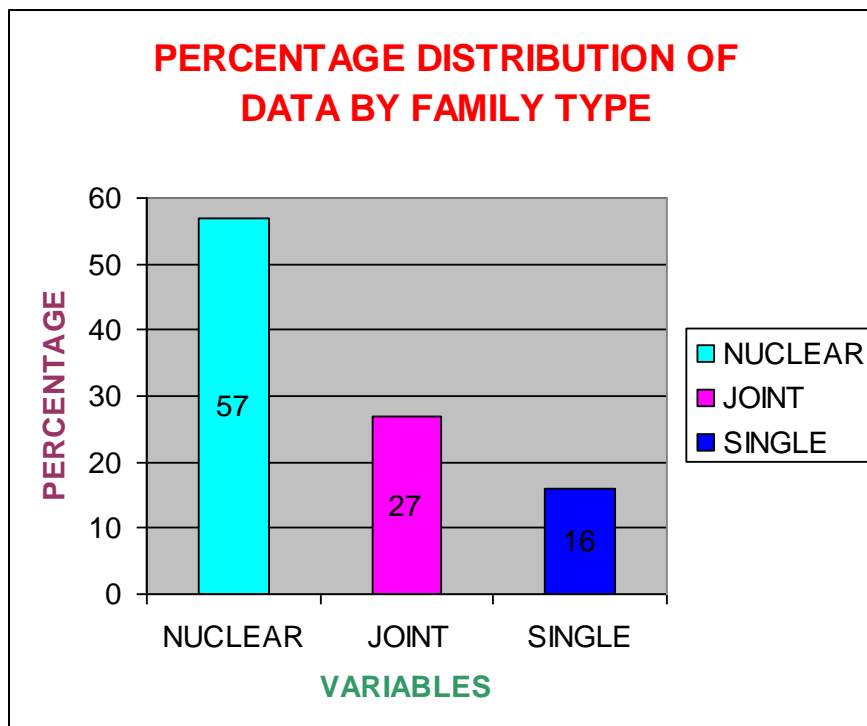
on the socio-economic status of the person, being unemployed causes major financial burden and pushes the patients to lower socio-economic class. In the present study, 14 patients were belonging to middle class having per capita income of family between 300-499 rupees. They were unemployed and attributed suicidal attempt for being jobless.

OCCUPATION



In the present study, housewives constituted 33%, students 23%, shop owners 16%, skilled workers 5%, unemployed 14%, and others (laborers, farmer, retired) 9%.

FAMILY TYPE



MODE OF SUICIDAL ATTEMPT:

Table 5: Frequency distribution of data by mode of suicide attempt (n=100)

VARIABLES	FREQUENCY	PERCENTAGE
OP POISONING	54	54.0
DRUG OVER DOSE	21	21.0
OTHER POISONES	19	19.0
SELF INFLICTED BURNS	2	2.0
HANGING	3	3.0
KEROSENE	1	1.0
TOTAL	100	100

Of 100 patients, 73(73%) patients used poisoning as method of attempting suicide, 54 of them used organophosphorous (OP) compounds, 19 used other poisons (phenyl, rodenticide). 21 (21%) patients adopted drug over dosage as the

method of attempting suicide. Hanging (3%), self-immolation (2%), kerosene consumption (1%) were the rare methods adopted by our population.

Table 6: Mode of suicidal attempt vs psychiatric diagnosis (n=100)

Mode of suicidal attempt/psychiatric diagnosis	n1	Depressive disorder (n2=34)	Adjustment disorder (n2 =28)	No diagnosis (n2=21)	Others (n2=17)			
					Al-co	Schiz	Pa-nic	Som a
O P Compounds	54	20	13	09	09	02		01
Other poisoning	19	09	07	02	01	00		
Drug over dose	21	05	05	10			01	
Others			03		01	02		
Hanging	03				01	02		
Self imm	02		02					
Kerosene	01		01					

Of 34 patients diagnosed with depressive disorder, 29 patients used poisoning and 5 patients used drug overdose as mode of suicidal attempt. Among 28 patients of adjustment disorder, 20 patients used poisoning, 5 patients used drug over dose, 3 used other methods (self immolation, kerosene consumption) as mode of suicidal attempt. Of 21 patients who had no diagnosis on axis-I, 11 patients used poisoning and 10 patients used drug overdose as method opted for suicidal attempt. 11 patients who were diagnosed as alcohol dependence syndrome, 10

used poisoning and 1 used hanging as mode of suicidal attempt. schizophrenia was diagnosed in 4 patients, 2 of them used OP compound and 2 used hanging as mode of suicidal attempt.

Striking finding was that patient of depressive disorder and patients who had no diagnosis on axis-I are using common methods (poisoning, drug overdose) to attempt suicide. Whereas patients using uncommon means like hanging, self-immolation and kerosene consumption had

other diagnosis like adjustment disorder, alcohol dependence syndrome, and schizophrenia. Majority (10) of patients who used drug overdose had no diagnosis on axis-I, as most of

patients were students staying in the campus along with medical students, and having easy accessibility to sleeping pills (benzodiazepines)

PSYCHIATRIC MORBIDITY

Table 7: Frequency distribution of data by psychiatric morbidity (n=100)

VARIABLES	FREQUENCIES	PERCENTAGE
UNIPOLAR MDD	27	27.0
OTHER MOOD DIS	7	7.0
ADJUSTMENT DISO	28	28.0
ALCOHOL DEP	11	11.0
SCHIZOPHRENIA	4	4.0
NO DIAGNOSIS	21	21.0
OTHERS	2	2.0
TOTAL	100	100.0

All patients were evaluated using SCID – I. Of 100 patients, 79(79%) patients were diagnosed having psychiatric disorders. Among the patients who had a psychiatric disorder, the most

common 34(34%) patients diagnosis was depressive disorder, followed by adjustment disorder (28%), alcohol dependence (11%), schizophrenia (4%), other disorders (2%).

PERSONALITY DISORDER:

Table 8: Personality disorder/Traits (n=100)

S.No	Personality disorder / Traits	Disorder (number)	Traits (number)
1	Cluster A	00	00
	Paranoid	00	00
	Schizoid	00	00
	Schizotypal	00	00
2	Cluster B	06	27
	Antisocial	02	06
	Borderline	04	15
	Histrionic	00	06
	Narcissistic	00	00
3	Cluster C	03	12
	Avoidant	00	02
	Dependent	00	04
	Obsessive compulsive	03	06
4	Personality disorder NOS	00	00
5	No diagnosis on axis II	91	61

We made diagnosis of personality disorder based on clinical assessment according to DSM-IV TR

criteria. 9 (9%) of patients were diagnosed having personality disorder. 4 patients were

diagnosed with borderline personality disorder, 2 with antisocial personality disorder, 3 with obsessive compulsive personality disorder. Of 91

patients with no diagnosis on axis II 39 patients had personality traits.

PSYCHOSOCIAL STRESSORS AND REASONS ATTRIBUTED FOR SUICIDAL ATTEMPT

Table 9: Psychosocial stressors:

VARIABLES	MEAN	S.D
PSLES TOTAL SCORE 1 YEAR	4.9900	1.6361
PSLES TOTAL SCORE 1 MONTH	3.2400	1.3190
PSLES STRESS SCORE 1 YEAR	223.4900	105.6239
PSLES STRESS SCORE 1 MONTH	156.4100	92.7123

Mean number of stressful Life Events experienced in previous 1 month 3.2400 ± 1.3190 and previous 1 year was 4.9900 ± 1.6361

Mean stress score for previous 1 month was 156.4100 ± 92.7123 and previous 1 year was 223.4900 ± 105.6239 .

Table 10: Frequency distribution of data by reasons attributed to suicide (n=100)

VARIABLES	FREQUENCY	PERCENTAGE
INTER PERSONNEL PROBLEM	74	74
FINANCIAL PROBLEM	14	14
BROKEN LOVE AFFAIR	6	6
FAILURE IN EXAMS	4	4
DEATH OF CLOSED FAMILY MEMBER	2	2
TOTAL	100	100

Majority, 74(74%) patients attributed inter personal problems as the reason for suicidal attempt, 37(37%) patients had interpersonal problems with their parents, 20(20%) patients with their spouse, 12(12%) patients with their in-laws and 5(5%) patients with their siblings, friends, workmates. 6(6%) attributed to Broken love affair, 14(14%) to Financial problems, 4(4%) to failure in examination and 2(2%) to death of close family members.

DISCUSSION

All over world the attempted suicide rate among adolescents and young adults is alarmingly increasing. This is in accordance with other Indian studies.¹

The particular vulnerability in adolescents and young adults may due to emotional turmoil,

interpersonal problems, increase in alcohol and substance abuse, breakdown in extended family, job difficulties and academic setbacks. Thus as large number of this high-risk group enters the phase of life associated with greatest risk.

This is similar to most of Indian studies^{2,3} but in contrast with other studies⁴ where female predominance is noted.

This can be explained by the fact that, the study site being a tertiary referral center, only cases of high medical/surgical seriousness are seen. As it's known that, men are less likely to seek help, admit the severity of symptoms, or accept treatment, increasing their likelihood of using lethal means of suicidal attempt. Whereas, women tend to have more social support, more willing to seek help and lower rates of alcohol

and substance use disorders, all of which may have protective effects.

Similar to findings reported by other studies¹. One of the probable reasons contributing to increased unmarried population attempting suicide is lack of social support. 23 out of 55 unmarried patients were students contributing to the rise in attempted suicide rate seen among unmarried patients group in the present study.

Probable protective factors in married individuals were greater likelihood of social integration, feeling of a sense of responsibility towards others, presence of children, increased adaptability to stressful circumstances.

Narang et al 2000, reported 30% were housewives, 23% were students, 8% were unemployed, 14% were shop owners in their study at medical college Ludhiana.³ In the present study, students and housewives also formed the majority; which is in accordance with the above study.

Housewives and students are more likely to be exposed to interpersonal problem with parents, in-laws, spouse and other family members this could be probable reason for attempting suicide in these population.

As observed by other studies¹ we also found that people from nuclear family constituted majority (57%) in the present study.

In a socio-psychological perspective the structural classification into nuclear and joint, exerts great influence on the individual. Nuclear family is an autonomous unit on which the impact of stressors is more than the extended family. Joint family provides a protective environment to individual where he can deal with stressors and his individual problems in a better way, with the help of several others where in this is not possible in nuclear family.

16% of the study population were staying single. Majority of them were students (16 patients) staying in hostel. There has been gradual

increase in the rates of poisoning from 22.6% to almost 100% due to easy accessibility various agents in India. The results from the present study are in keeping with Indian studies⁵ where other modes combined together formed approximately 20% of individuals.

Michel et al 1994, found a 46% usage of benzodiazepine in suicide attempters, often in combination with other drugs and alcohol.⁶

Patients consuming OP compounds though scored low on suicidal intent scale and hopelessness scale had shown high scores on lethality scale, when compared with other poisons and drug overdose which is reflected in ANOVA as $p = 0.16$ for lethality scale. This implies even though patients consume common and freely available compounds like OP compound it is a matter of concern for both treating physician and psychiatrist along with society at large as OP compounds can prove to be fatal without patients intention of being so. Hanging, self-immolation and kerosene consumption opted as mode of suicidal attempt had high scores on lethality scale as they are known to be violent methods.

Of 34 patients with depressive disorder, 27 were of unipolar major depressive disorder, 4 were of bipolar disorder and 3 had dysthymic disorder. 6 out of 34 patients had comorbid axis II personality disorder on clinical assessment according to DSM IV TR (3 with borderline personality disorder and 3 with obsessive compulsive personality disorder) Most of the patients had agitation, hostility associated with depressive symptoms. It appears that the period of highest risk for attempted suicide is both early in the course of a major depressive episode and within the first few years of the disorder (Neierenberg et al., 2001) as younger age group is affected with the same.⁷

In the present study 28 (28%) patients were diagnosed with Adjustment disorder its closer to

the figures of 34.6%. It is significantly higher than the rates quoted by Narang *et al*³. Out of these 28 patients of adjustment disorder, 14 were housewives forming the majority of this population and having difficulty to cope with Interpersonal problem with significant others. Rest of them were unemployed (6), shop owners (4) and students (3).

Of 11 patients diagnosed with alcohol dependence syndrome, all of them were male and attempted suicide in intoxicated state.

4 (4%) patients were diagnosed with schizophrenia. All of them were having features of post psychotic depression. All patients had chronic illness and multiple hospitalisations. These findings are in accordance with other studies (Narang *et al.* 2000, Jain *et al.* 1999).^{2,3}

1 (1%) patient was diagnosed as panic disorder and 1 (1%) with somatoform disorder. They thought their illness is debilitating and incurable making their life miserable causing socio-occupational impairment. Hence they thought they would get relief from their disease only when their life ends.

Among 21 (21%) patients of no diagnosis group, 9 were having V- code on axis –I and 11 patients had no diagnosis on V-code. Among patient who had V-code, 6 patients had academic problem, 3 had occupational problem, 2 had parent child relationship problem.

All patients having personality disorder had comorbid axis I diagnosis on scid I. Depressive disorder (6) and alcohol dependence syndrome (3) were the comorbidity diagnosed in the present study.

Borderline personality disorder was the most common personality disorder identified in several studies^{8, 9}. In the present study, 4 patients were diagnosed with borderline personality disorder all 4 patients had co-morbid axis I diagnosis, 3 were diagnosed with

depressive disorder and 1 with alcohol dependence disorder.

3 patients who were diagnosed with obsessive compulsive personality disorder had comorbid diagnosis of depressive disorder on axis I. 2 patient with the diagnosis of antisocial personality disorder had comorbidity of depressive disorder (1) and alcohol dependence syndrome (1).

Probable reasons were predisposition of personality disorder patients to major psychiatric disorders like depressive disorders or alcohol dependence syndrome, difficulties in relationships and social adjustments, impairment in abilities to cope with stress, interpersonal conflicts with family members and others.

In the present study, it was found that 39 (39%) patients had some personality traits accentuated in them. Cluster B traits were observed in 27 patients (borderline personality trait in 15, antisocial personality trait in 6, histrionic personality trait in 6 patient) and cluster C personality traits in 12 patients (obsessive compulsive personality trait in 6, dependent personality trait in 4, avoidant personality trait in 2 patients). There were no patients with cluster A trait diagnosis. These were the individuals not fulfilling the criteria for personality disorder on DSM IV TR. Haw *et al.* 2001, found traits accentuation based on personality assessment schedule in 33.3% of the individuals. These finding are in accordance with the present study.¹⁰

Probable reasons for these traits were: work or study related perfectionism, uncertainty about self image, low frustration tolerance, interpersonal problems marred by unstable internal preference for the relationship, frequent arguments and disagreements, emotional lability and feeling of emptiness, impulsivity. This shows that, these traits not only reflect the personality

disorder diagnosis but also are the same factors that are left out while formulating the diagnosis.

Paykel et al., (1975) had observed that patients who attempted suicide show as much as four times an incidence of an upsetting life event in the preceding month compared to general population¹¹. Chronic social problems – marital difficulties and separations, unemployment, overcrowded housing and debts are common among suicidal attempters. Many attempters have experienced acute interpersonal problems and financial stressors and they often form the background to the suicidal attempts. Most frequent stressful life events, the present study population had experienced in past 1 month and 1 year were marital conflicts, conflicts with in-laws, financial loss, family conflicts, etc. thus undesirable life events were the most common occurrences in their life, during this period.

The impact of stress is tempered by the mitigating of primary (in the family), secondary (among friends, close relatives and neighbours) and tertiary (at social service organization, religious and charitable services, etc) factors (Andrade et al 1989). But when the person is faced with the issues in the contest of interpersonal and family breakdowns, the stressed individual stands in a high-risk position. Since the younger age group appear to be more vulnerable, both for fatal and non-fatal suicidal acts it is imperative that the section of the population needs more psychological and social support.

The implication of this finding for therapy of suicidal individual are important. The cognitive and attitudinal phenomena of hopelessness are important target symptoms treating suicidal individuals. The clinician is more likely to “get a hold” of situation by targeting on the patients hopelessness rather than dealing with his overt self destructive acts. By focusing on reduction of patient’s hopelessness, the professional may also

be able to alleviate suicidal crisis more effectively. In addition the hopelessness formulation of suicidal behaviour has provided the rationale for active cognitive and behavioural approaches directed at correcting the pervasive misconceptions inherent in such an attitude.

CONCLUSION

Attempted suicide is the burning issue as it is 10 – 25 times more than completed suicide and the most important public health concern. Wide variation in the frequencies of psychiatric disorder reported in Indian studies ranging between 5.5 to 93%. We decided to evaluate psychiatric morbidity along with other important aspects of attempted suicide.

The study was carried at a tertiary care multi-speciality teaching hospital, 100 consecutive patients of suicidal attempt were evaluated during June 2006 to May 2007.

Data was collected on a specifically designed Performa for socio-demography, mode of suicidal attempt, past history of suicidal attempt. Psychiatric diagnosis was established on SCID-I. Severity of suicidal intent, lethality and hopelessness were also evaluated by using scales. Stressors were elicited using PSLES scale for previous 1 month and 1 year.

The following results were observed. Suicidal attempt was commonly seen in unmarried male. Housewives and student formed majority in the study.

Poisoning (73%) was the most common method used for suicidal attempt, followed by drug overdose (21%). Benzodiazepine was most commonly used drug for overdose.

79% of patients were diagnosed to have psychiatric diagnosis on scid-I, most common diagnosis was depressive disorder. 9 (9%) of patients were diagnosed having personality disorder on clinical assessment according to DSM IV TR, most common was borderline personality

disorder. Most of the patients attributed interpersonal problems (74%) as the reason for their suicidal attempt. Hopelessness, suicidal intent, and depression were significantly correlated to each other's. Patients of alcohol dependence syndrome used more lethal modes of suicidal attempt even though scoring low on hopelessness and suicidal intent scale attributed to intoxicated state during the attempt. All patients with past history of suicidal attempt had some psychiatric diagnosis during the previous attempt.

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*Corresponding Author:

Alok Ghanate*

¹Department of Psychiatry, M.R.Medical College,
Gulbarga, Karnataka.