Personality Disorders Among Suicide Attempters

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Abstract: Attempted suicide is a common clinical problem in general hospitals. Personality disorders are at increased risk for suicide. There are few case-control studies on attempted suicide in India. The aim of the study was to find out the prevalence of Personality Disorders in survivors following their first suicide attempts. 100 consecutive cases of first suicide attempters (Group-I) were compared with an equal number of randomly selected controls (Group-II), matched for age and sex. Risk-Rescue rating was applied in suicide attempters to know the medical seriousness of the suicide attempt. Structured clinical interview (MINI Plus) and semi-structured clinical interview (IPDE) were used for Personality diagnosis. The two groups were compared using appropriate statistical measures.The overall medical seriousness of the suicide attempt was of moderate lethality (low risk, high rescue group). Group-I had higher personality disorders (52% v 25%) compared to group-II. The difference was found to be statistically significant with an Odds ratio of 3.43 of having personality disorder and suicide attempt. The most common cluster of personality disorder was cluster-B followed by cluster A and cluster-C. Emotionally unstable-impulsive type, schizoid, paranoid and anankastic personality disorders were most frequent among the suicide attempters. Individuals who made first suicide attempt had high prevalence of personality disorders in comparison to the controls.

Keywords: Attempted suicide; Borderline personality Disorders; Cluster –A personality disorders; Cluster –B personality disorders

Acronyms

ANOVA	Analysis of Variance
DSM-IV^{TR}	Diagnostic and Statistical Manual of Mental Disorders, Text Revision of Fourth edition.
ICD-10	International Classification of Diseases, Tenth Edition.

IPDE	International Personality Disorder Examination
MINI	Mini International Neuro–psychiatric Interview
RRRS	Risk-Rescue Rating Scale

1. INTRODUCTION

The word 'suicide' has its origin in Latin; 'sui', of oneself and 'caedere', to kill: the act of intentionally destroying one's own life.(Dorland's electronic medical dictionary [book on CD -ROM]. 30th ed. New York (NY): Elsevier Inc.; 2003. Suicide) The phenomenon of suicide has attracted the attention of moralists, social investigators, philosophers and scientists.

The modern era of the study of suicide began around the turn of the 20th century, with two main threads of investigation, the sociological and the psychological, associated with the names of Emile Durkheim (1858-1917) and Sigmund Freud (1856-1939) respectively.

The publication of Stengel and Cook's paper entitled 'Attempted Suicide' drew the attention into the critical distinction between completed suicide and

attempted suicide.(Adityanjee DR. Suicide attempts and suicides in India: cross-cultural aspects. Int J Soc Psychiatry 1986;32(2):64-73.) Suicide attempts occur thirty to hundred times more frequently than completed suicide.(Weissman MM. The epidemiology of suicide attempts 1960 to 1971. Arch Gen Psychiatry 1974;30:737-46.) The magnitude of this problem and its relevance in terms of public health, and the need for developing effective prevention strategies to prevent people committing this lethal act, makes heavy demands on psychiatric services. (Vijaykumar L. Suicide and its prevention: the urgent need in India. Indian J Psychiatry 2007;49(2):81-3.)

The number of suicides in India during the decade 1995-2005 has recorded an increase of 27.7%.In 2006, a suicide survey conducted by NIMHANS, Bangalore, reported that 64% of suicide victims were below the age of39 years. (Upreti DK. When life becomes a burden. Deccan Herald 2007 Nov 11;9 (col.1).)

Personality disorders in suicide attempters have been the interest of many researchers. Literature has recorded association of Personality disorders in such cases, both in the West and in India. Prevalence rates of Personality disorders have ranged

from 0.73% to 71%. However, most of the studies have focused attention on prevalence of Personality disorders in cases of attempted suicide.
Thus, majority of suicide attempters are known to suffer from at least one

mental disorder.(Foster T, Gillespie K, McClelland R. Mental disorders and suicide in Northern Ireland. Br J Psychiatry 1997;170:447-52) Attempting suicide being an extreme form of giving up response may be determined by one's personality traits. In addition, associated personality disorders in suicide attempters have poor outcome of treatment and prognosis.

There is paucity of case-control studies with regards to

Personality disorders in suicide attempters, especially in Indian context. (Chandrasekaran R, Gnanaseelan J, Sahai A, Swaminathan RP, Perme B. Psychiatric and personality disorders in survivors following their first suicide attempt. Indian J Psychiatry 2003;45(11):45-8.)Therefore a case-control study of prevalence of Personality disorders in survivors following their first suicide attempt is justified. Hence a case-control study of prevalence of Personality disorder in survivors following their first suicide attempt in a general hospital was planned. Objective of the study is to find out the Prevalence of the Personality disorders in survivors following their first suicide attempt.

Null Hypothesis
There is no increased prevalence of Personality disorders in survivors following their first suicide attempt compared to Age,Sex matched controls.

2. METHODOLOGY

The current study is a cross-sectional, hospital based, case-control study.Sample for the current study was drawn from patients who had attempted suicide and were referred to the Psychiatric services at the Vinayaka Mission's Kirupananda Variyar Medical College, Salem. Controls were selected from the attenders from patients of other Departments. From the above sources, all consecutive cases attending out-patient Department of Psychiatry, who fulfilled the inclusion criteria were selected for the current study.

Criteria for selecti on of the sample:
Group- I: (Annexure -I)
Inclusion criteria:
1. Age between 18-55 yrs.
2. Both sexes.
3. First suicide attempt.
4. First Psychiatric consultation.

Exclusion criteria:
1. Past history of attempted suicide.
2. Past history of psychiatric and/or personality disorders.
3. Mental retardation.
4. Chronic and disabling medical illnesses such as epilepsy, hypertension, diabetes mellitus, chronic infectious diseases (like tuberculosis, STDs, HIV, etc), cases of organic psychoses or any established medical illnesses for more than 2 years.

Ethical Committee of the institution approved the study Protocol.
Informed Consent was obtained from all participants.

Tools used for the collection of data:
In the current study, following tools and sources of information were used for collecting the required data:

1.Semi Structured Proforma to collect General Information and details of Suicide atempt

2.Risk-Rescue Rating Scale by Weisman and Worden.(Weisman AD, Worden JW. Risk-rescue rating in suicide assessment. Arch Gen Psychiatry 1972 Jun;26:553-61.)
3.General Health Questionnaire by Goldberg (6 item version). (Goldberg DP. The detection of psychiatric illness by questionnaire. London: Oxford University Press; 1972. Rao KN, Begum S, Siddappa K, Ravindra K. Validity of a 6-item version of General Health Questionnaire (GHQ) in the hands of non-psychiatrist. Indian J Psychiatry 1992;34(2):145-[7])

4.Mini International Neuropsychiatric Interview-Plus (MINI Plus) by Sheehan et al. (Sheehan DV, Lecrubier Y, Harnett-Sheehan K, Amorim P, Janavs J, Weiller E, et al. The Mini International Neuropsychiatric Interview (M.I.N.I.): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. J. Clin Psychiatry, 1998;59(suppl 20):22-33. Mini International Neuro-psychiatric Interview Plus (MINI Plus). [Online]. 2006 [cited 2006 Jul 1]; Available from: URL:www.medical-outcomes.com/MINIPlus500.doc)
5.International Personality Disorder Examination (IPDE–ICD-10 module) by Loranger et al. (Loranger AW, Sartorius N, Andreoli A, Berger P, Buchheim P, Channabasavanna SM, et al. The international personality disorder examination: the World Health Organization/Alcohol Drug Abuse and Mental Health Administration international pilot study of personality disorders. Arch Gen Psychiatry 1994;51:215-24.)

Statistical analysis:
Data has been analyzed using Statistical Package for the Social Sciences(SPSS) latest version for Windows (Statistical Package for the Social Sciences[statistical software]. Version 10.0.) Inter-group comparisons were performed using parametric (Student's t-test, one-way ANOVA, Pearson's Correla tion test) and non-parametric tests (Chi-Square test).

Statistical significance was set at $P < 0.05$

3. RESULTS

A total of 200 subjects were included in this study. They were divided into two groups as group-I (suicide attempters) and group-II (controls) of 100 subjects each. Data has been analyzed using Statistical Package for the Social Sciences (SPSS) version 10.0 for Windows.

Results of the study have been analyzed under the following headings:

Socio –Demographic details of case and control group.

Family History of case and control group.

Risk-Rescue Rating Scale analysis.

GHQ-6 item questionnaire analysis of both groups.

Personality disorder characteristics of both groups.

Table – 1: Socio-Demographic characteristics.

Characteristics		Group-I	Group-II	Statistical analysis
		(N=100)	(N=100)	(P < 0.05)
Age in years	Mean and S.D	27.31 ± 8.68	27.7 ± 8.58	t=0.32; df=198; Not significant
	≤ 20	23	20	χ^2=0.28; df=3; Not significant
	21 – 30	53	55	
	31 – 40	13	14	
	≥ 41	11	11	
Sex	Male	52	52	χ^2=0; df=1; Not significant
	Female	48	48	
Place	Rural	79	67	χ^2=3.65; df=1; Not significant
	Urban	21	33	
Religion	Hindu	95	95	χ^2=0; df=1; Not significant
	Muslim	5	5	
Education	Mean and S.D	8.69 ± 4.28	9.42 ± 5.55	t=1.042; df=198; Not significant
	Illiterate	9	16	χ^2=7.98; df=2; Significant
	< 10^{th} class	42	24	
	≥ 10^{th} class	49	60	
Occupation	Semi-skilled	18	22	χ^2=8.24; df=4; Not significant

	Skilled	28	20	
	Professional	19	20	
	Student	10	22	
	Household	25	16	

Socioeconomic	Class – I	15	25	χ^2=3.48; df=4;
Status	Class – II	19	15	Not significant
	Class – III	22	18	
	Class – IV	25	25	
	Class – V	19	17	
Marital status	Unmarried	47	51	χ^2=0.32; df=1;
	Married	53	49	Not significant
Family type	Nuclear	49	52	χ^2=1.42; df=1;
	Extended	18	12	Not significant
	Joint	33	36	

(Figures same as percentages)

Majority of the suicide attempters belonged to 21-30 years age group. Age variable was well matched amongst the two groups. Two-thirds of suicide attempters were aged between 21-40 years. Mean age of the study sample was 27.31 ± 8.68 years, with that of males and females being 29.21 ± 8.72 years and 25.25 ± 8.22 years respectively.Gender of the subjects was evenly distributed across the groups and thus was well matched between the two groups.

Table – 2: Family History in Group-I and Group-II.

Family history characteristics	Group-I (N=100)	Group-II (N=100)	Statistical analysis (P < 0.05)

Suicide	Present	11	5	χ^2=2.45; df=1; Not significant
	Absent	89	95	

(Figures same as percentages)

Family history of suicide:

11% of the suicide attempters had family history of suicide compared to 5% among the controls. The difference was not statistically significant.

Table – 3: Characteristics of Suicide Attempt.

Characteristics			Group-I (N=100)
Site of suicide Attempt	Familiar (house, fields, nearby places)		87
	Unfamiliar, non-remote		8
	Unfamiliar, remote		5
Method of suicide attempt and substance used	Poisons:		71
	Organophosphorus compounds		51
	Rat Poisons		9
	Other poisons		11
	Drugs		27
	Others (throat cutting, drowning)		2
	Under Influence of alcohol at the time of suicide attempt		15
Reasons Attributed For the suicidal attempt:		By patient:	By informant:
	Interpersonal difficulties	46	37
	Emotional distress	21	16
	Physical problems	11	12
	Financial problems	10	10
	Other life events	9	10
	No reason/accidental	3	15
Help sought prior to the suicide attempt			25
Suicidal ideas	Prior		62
	Current		32
Complications			31
Number of cases on mechanical ventilator support (mean duration in days)			6 (9.17 ± 6.43)
Total hospital stay (mean duration in days)			8.04 ± 4.79
Days taken to stabilize and be referred for psychiatric consultation (mean duration in days)			3.98 ± 4.6

Site of the suicide attempt:
Majority of the suicide attempters had chosen a familiar place to attempt suicide.

4. METHOD AND SUBSTANCE USED FOR THE SUICIDE ATTEMPT

Majority of the suicide attempters had consumed poison, organophosphorus compound consumption and drug overdose being the most common. Of poisons, 51% consumed organophosphorous compounds, 9% took rat poisons (aluminum phosphide, zinc phosphide), and 11% other poisons (DDT, phenol, kerosene, diluted sulphuric acid, potassium cyanide, prallethrin, solvent, seeds, naphthalene). 27% had overdosed drugs with psychotropics (17), antiepileptics (3) and others (7) like oral hypoglycaemics, antihistaminics, gammaxene and lindane. One case had attempted suicide by drowning, and another had cut his throat superficially with knife, both were suffering from psychosis. 15% of the cases had consumed alcohol while attempting suicide or had mixed alcohol with substance used to attempt suicide so as to minimize the perceived 'pain' or bitter taste of the poison or the drug.

Reasons attributed for the suicide attempt:
Majority of the suicide attempters and their informants reported interpersonal difficulties with significant persons and emotional distress as the cause. Other life events like failure in examination, accident, infertility, bereavement, loss of mobile phone/gold chain were also reported. On repeated confidential interviews with the patient and the informant separately, 97% of patients and 85% of the informants revealed the reason for the suicide attempt. Only 3% of cases reported no reason or quoting reason as accidental or 'mistaking for something else' compared to informants who reported in 15% attempts to be accidental or no reason for the suicide attempt.

Help or advice sought prior to the suicide attempt:
25% of the suicide attempters had already sought the general practitioners and local doctors for 'help'. However, none of these patients received psychiatric treatment for their problems.

Suicidal ideas:
Nearly two-third of the suicide attempters reported of having suicidal ideas prior to the suicide attempt and one-third still reported of suicidal ideas at the time of psychiatric referral after being medically stable.

Table – 4: Risk – Rescue Rating Scale Scores.

Factors	Group-I (N=100) Mean and S.D
Risk points	7.77 ± 1.77
Risk scores	2.09 ± 0.9
Rescue points	11.84 ± 2.65

Rescue scores	3.62	± 1.29
Risk–rescue scores	37.35	± 16.05

Mean risk points and scores suggest that the study group had low moderate lethality of suicide attempt. Mean rescue points and scores suggest that the study group had high moderate rescuability (low intentionality). Mean risk-rescue score suggests that the overall seriousness of the suicide attempt was of moderate lethality (low risk, high rescue).

Table – 5: Correlation Of Complications And Severity Of *Suicide Attempt.*

Lethality of suicide attempt	Group-I (N=100)	Complications		Statistical analysis (P < 0.05)
		Present N=31	Absent N=69	
Mild to moderate	74	16 (51.61)	58 (84.06)	χ^2=11.17; df=1; Significant
Severe to very severe	26	15 (48.39)	11 (15.94)	

(Figures in parenthesis are percentages)

31% of the suicide attempters had complications during intensive care or emergency ward services. Most common complications were aspiration pneumonia (13%), respiratory failure (6%), seizures (5%), hypotension (2%), cerebellar toxicity (2%; due to phenytoin, carbamazepine), and others (3%; hemoptysis, dysphonia, hypoglycemia, and hypocalcemia). Six percent of these cases were put on mechanical ventilator due to respiratory failure for a mean duration of 9.17 ± 6.43 days.

Forty-one cases had mild lethality of the suicide attempt of which three had complications (7.32%). 33% had moderate lethality of the attempt of which thirteen had complications (39.4%). 18% had severe lethality of the attempt of which ten had complications (55.56%). 8% had very severe lethality of the attempt of which five had complications (62.5%).

Of the 26 cases with severe to very severe lethality of the suicide attempt, 57.7% had complications compared to 21.6% of 74 cases with mild to moderate lethality of the suicide attempt. As the lethality of the suicide attempt increased, the incidence of complications also increased.

Table – 6: General Health Questionnaire (6-Item Version).

GHQ – 6 item	Group-I (N=100)	Group-II (N=100)	Statistical analysis (P < 0.05)
Mean and S.D	3.43 ± 2.05	0.94 ± 1.59	t=9.585; df= 198 Significant
Positive	88	34	χ^2=61.29; df=1 Significant
Negative	12	66	

The mean score of GHQ-6 was high among the suicide attempters compared to the controls and the difference was found to be statistically significant.

Table – 7: Pattern of Personality Disorders.

Personality disorders	Group-I (N=52)	Group-II (N=24)	Statistical analysis (P < 0.05) significant
Personality disorder *	52	24	
Cluster-A personality disorders	22	5	
□ Paranoid	13	1	χ2=16.63; df=1; OR = 3.43 (95% CI = 1.88 – 6.27)
□ Schizoid	15	4	
Cluster-B personality disorders	24	10	
□ Dissocial	7	1	χ2=39.68; df=1; OR = 10.61 (95% CI = 4.67 – 24.15)
□ Emotionally unstable–impulsive	16	6	
□ Emotionally unstable–borderline	9	3	
□ Histrionic	1	0	
Cluster-C personality disorders	14	9	

□ Anankastic	11	4	
□ Anxious	6	3	
□ Dependent	3	2	
Unspecified personality disorder	4	2	
Comorbidity (personality disorders)	18	2	$\chi 2$=61.15; df=1; OR = 19.12 (95% CI = 8.05 – 45.43)
Two	10	2	
Three or more	8	0	
Intra-cluster comorbidity	4	2	
Cluster-A	1	0	
Cluster-B	3	1	
Cluster-C	0	1	
Inter-cluster comorbidity	14	2	
Cluster-A and B	2	0	
Cluster-B and C	2	1	
Cluster-C and A	4	1	
Cluster-A, B and C	6	0	

(Sample may have more than one personality disorder)

* χ^2=16.63; df=1; P < 0.05; Significant; OR = 3.43 (95% CI = 1.88 – 6.27)

** χ^2=39.68; df=1; P < 0.05; Significant; OR = 10.61 (95% CI = 4.67 – 24.15)

*** χ^2=61.15; df=1; P < 0.05; Significant; OR = 19.12 (95% CI = 8.05 – 45.43)

52% of the suicide attempters had at least one Personality Disorder diagnosis compared to 24% of the controls. Only 7% of group-I compared to 59% in group-II received no diagnosis. The difference was found to be statistically significant with an Odds ratio of 3.43 of having personality disorder and suicide attempt.

	Cases %	Control %
One Personality Disorder Diagnosis	52	24
No Diagnosis	7	59

The most common cluster of personality disorder was cluster-B followed by cluster A and cluster-C. Emotionally unstable-impulsive type, schizoid, paranoid and anankastic personality disorders were most frequent among the suicide attempters

5. DISCUSSION

Personality disorders:

Suicidal behavior and suicide are linked to a wide array of risk factors, including psychiatric disorders, personality disorders and traits, life and family stressors. Johnson BA concluded that Suicide attempters were more likely to have Personality disorders than the Psychiatric controls.

The Personality factors accounted for a substantial portion of the risk associated with individual demographic and general health factors. The largest mediation effects upon incorporation of personality scores into the model were those for the 18-35 age group and the never married group. With increasing suicide rates among young people, there lies a possibility that age-related suicide risk is mediated by personality dysfunction.(Grucza RA, Przybeck TR, Cloninger CR. Personality as a mediator of demographic risk factors for suicide attempts in a community sample. Comprehensive Psychiatry 2005;46:214-22.)

Morgan et al assessed 368 patients following some form of deliberate self-harm and personality disorder was found to be present in 29% of cases. (Morgan HG, Burns-Cox CJ, Pocock H, Pottle S. Deliberate self-harm: clinical and socio-economic characteristics of 368 patients. Br J Psychiatr 1975;127:564-74) Urwin and Gibbons also noted personality disorder in 21% of self-poisoning cases with an increase in prevalence in the age group of 35-44 years (18.6%).(Urwin P, Gibbons JL. Psychiatric diagnosis in self-poisoning patients. Psychological Medicine 1979;9:501-7.)

In our study Personality Disorders is found in 52 % of suicide attempter compared to 24% in control Group ' then Null Hypothesis is rejected

Gupta and Singh studied 100 suicide attempters and noted 58% had some abnormal personalities, being more common in females (61%) than in males (56%). Schizoid (23%), hysterical (18%) and passive-aggressive (10%) type of personality patterns were observed.(Gupta SC, Singh H. Psychiatric illness in suicide attempters. Indian J Psychiatry 1981;23(1):69-71.)

In our study there are about 25% emotionally unstable personality disorder, followed by 15% of schizoid personality disorders, 13% of paranoid personality disorders, and 11% of anankastic personality disorders. Histrionic (1%) and dependent (3%) personality disorder were least found in the group-I. Of those who had personality disorder, 34.62% in the study group and 8.33% in the control group had multiple (≥ 2) personality disorder.

Gupta and Trzepacz studied 207 patients admitted for serious overdose, and noted majority had Cluster B personality disorders, consistent with higher impulsivity associated

with this cluster. Borderline personality disorder (13%) was most common followed by personality disorder NOS (6.8%) and antisocial personality disorder (6.3%).74

We also found cluster –B personality (24%), followed by cluster- A personality (22%) and cluster-C personality (14%)

Roy and Chir found that attempted suicide occurred in 68.8% of the personality disorder patients. They also reported that family history of suicide to significantly increase the risk for suicide attempt in patients with personality disorders. (Roy A, Chir B. Family history of suicide. Arch Gen Psychiatry 983;40:971-4.)

In our study 27% of suicide attempters have given family history of

Psychiatric Illness, 11% suicide , 63% substance Abuse.

Runeson in a retrospective study of 58 survivors aged 15-29 years, noted 34.5% had personality disorder, of which 28% had borderline personality disorder. (Runeson B. Mental disorder in youth suicide.Acta Psychiatr Scand 1989;79:490-7).

Ennis et al studied 71 consecutive suicide attempters and noted that 58% had at least one of the personality disorder with most common being borderline personality disorder (28.2%), atypical or mixed (14%), antisocial personality disorder (8.45%) and other types were less common.(Ennis J, Barnes RA, Kennedy S, Trachtenberg DD. Depression in self-harm patients. Br J Psychiatry 1989;154:41-7.)

We have found 9% of suicide attempters has borderline personality disorders compared to 3% in control group

In a psychological autopsy study by Henriksson et al, personality disorders were reported in 31% of subjects.

Psychiatric studies of suicide in India are few. Few Indian studies have addressed the issue of personality disorders. In a study by Second Author on Self Immolators , it was found that high percentage of people had impulsive aggressive and sensitive personality traits.(Personality Profile of Self- Immolators by Dr. R.T.Kannapiran et al Indian Journal of Psychiatry 1997 Jan- Mar; 39(1):37-40.)

In another study by Dr.A.Venkoba Rao et al Personality disturbance have found to be more in Suicide attempters in burns cases.(Rise in One Hundred Female Burns Cases: A Study in Suicidology, Indian Journal of Psychiatry ; year 1989, volume 31, Issue 1 (p43-50)

Risk for suicidal behaviour differs markedly among individuals; factors such as personality traits, contribute to individual differences in risks. However, Narang et al studied 100 attempted suicides in Ludhiana and reported only one case had personality disorder(Narang RL, Mishra BP, Mohan N. Attempted suicide inLudhiana. Indian J Psychiatry 2000;42(1):83-7.) Among the personality disorders, borderline personality disorder was reported in 28% cases and 4% controls, and antisocial personality disorder in 14.7% cases and 4% controls . (Lesage AD, Boyer R, Grunberg F, Vanier C, Morissette R, Menard-

Buteau C et al. Suicide and mental disorders: a case-control study of young men. Am J Psychiatry 1994;151(7):1063-8.)

Johnson et al reported that suicide attempters showed higher rates of cluster B and cluster C personality disorders than the controls. Personality disorders were noted in 71% of attempters and 45.7% of controls, with cluster C being most common (62.9% v. 38.6%) followed by cluster B (40.3% v. 18.6%). Borderline personality disorder (32.3% v. 7.1%) and avoidant personality disorder (32.3% v. 12.9%) were the most common personality disorders found in attempters and controls.

Dirks et al compared the patients with a history of previous parasuicide to those who had made their first attempt. Personality disorder was noted in 55% of first time attempters, with most common being paranoid (25%), impulsive (24%) and
anxious (24%) personality disorders. (Dirks BL. Repetition of parasuicide –

ICD-10 person ality disorders and adversity. Acta Psychiatr Scand 1998;98:208-13).

Haw et al studied 150 patients with deliberate self-harm, aged ≥15 years, and noted personality disorders in 45.9% with most common being anxious, anankastic
and paranoid personality disorders with no gender difference .(Haw C, Hawton K,
Houston K, Townsend E. Psychiatric and personality disorders in deliberate self-harm
patients. Br J Psychiatry 2001;178:48-54)..

Few Indian studies have addressed the issue of personality disorders.35
Indian studies have reported prevalence of personality disorders as51.8%,125
53.3%,78 58%68 in the suicide attempters which is in agreement with the current
study.

Few Western studies have reported higher rates of personality disorders in
such cases with rates of 68.8%, 69%, and 71%. Possibly, this may be due to sampling bias in these studies.

In summary, majority of the suicide attempters have significant , personality disorders. More frequently comorbid with personality disorders of borderline,
anankastic, anxious (avoidant), and antisocial types

From above discussion, it appears that the findings of this study are consistent with most of the previous researches carried out in this area. Suicide attempters had lower educational achievement;;higher personality disorders compared to the controls.Strength of the study that the study has included the ones who attempted suicide for the first time. Limitations of the study include lack of follow up , this being cross sectional study and exclusion of hanging and burns

6. CONCLUSION

In conclusion, this study has found that suicide attempters had higher Psychiatric morbidity in the form of Personality disorders in comparison to the controls. Hence it is useful to screen for Personality disorders, in suicide attempters as this has treatment implications like counseling, psychotherapy, pharmacotherapy and treatment outcomes.

Insecticides and pesticides were the most common agents employed to attempt suicide. This calls for regulation of selling of insecticides and pesticides to farmers and its proper disposal.

Most of the suicide attempters seek help from general practitioners. Therefore there is a need to sensitize this section of medical professionals regarding suicide prevention and assessment of Personality disorders and suicide risk.

Future implications:
Due to the paucity of prospective studies of personality disorders and suicides, and the consistent reports of cross-sectional studies that personality disorders are associated with increased risk of suicidal behavior, the effect of personality disorders on suicide risk clearly warrants further research.

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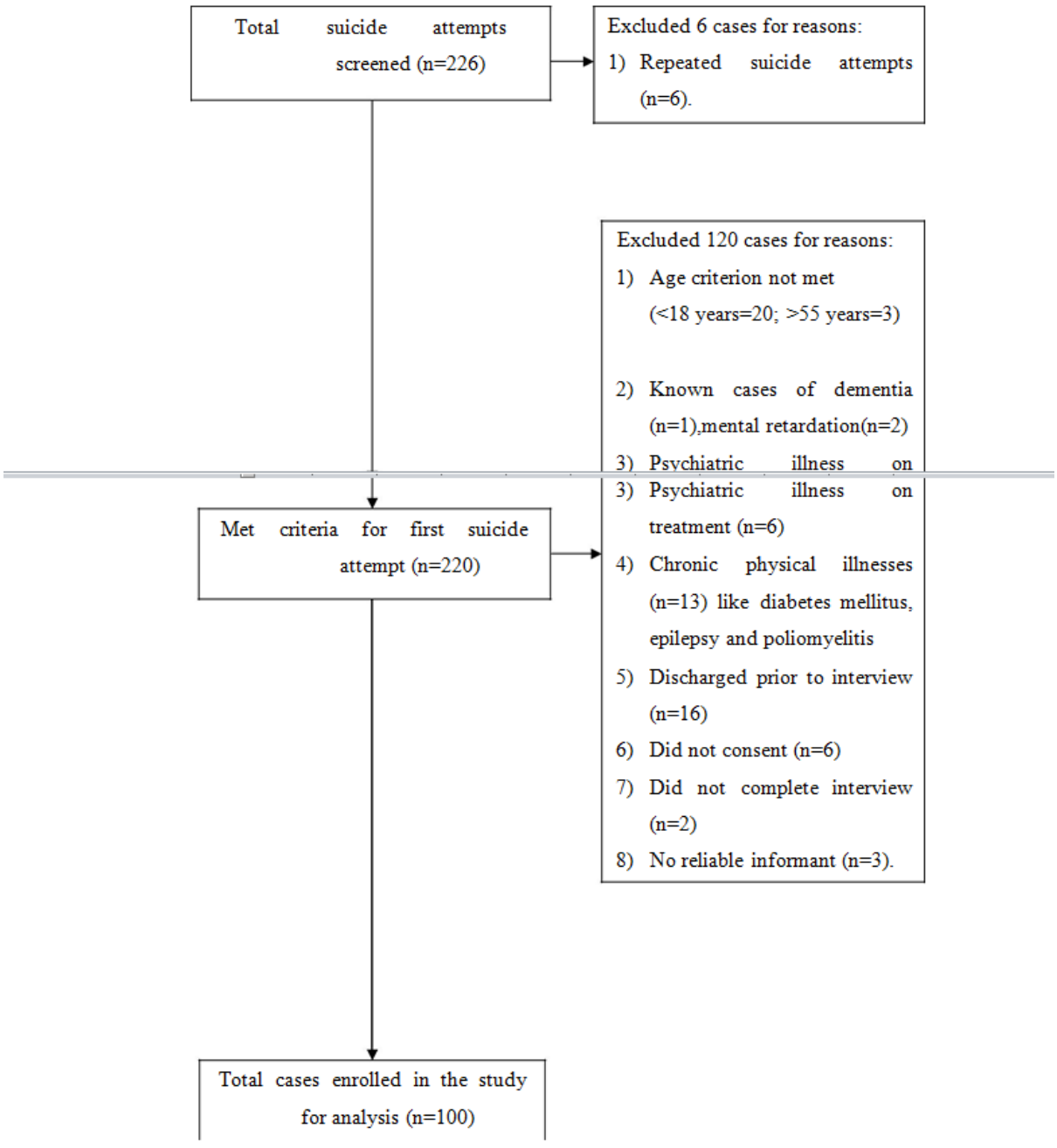
ANNEXURE-I

Schematic representation of group-I subjects included in the study.



ANNEXURE-II

CONSENT

I ....., aged…....yrs, sex…..., Working a S

…… have voluntarily agreed to participate as a **case** subject in the

Study"Personality disorders among Suicide Attempters " I have been explained about the nature of the study and all the attendant consequences of participation in the study. I understand that I may refuse to give consent without my treatment being affected in any manner.

DATE: SIGNATURE OF THE PATIENT.

CONSENT

I ....., aged……yrs, sex….., working As .....

……. have voluntarily agreed to participate as a **control** subject in

the study- "**Personality Disorders Among Suicide Attempters**." I have been explained about the nature of the study and all the attendant consequences of participation in the study. I understand that I may refuse to give consent without being affected in any manner.

DATE: SIGNATURE

ANNEXURE-III

GENERAL INFORMATION SHEET

CASE / CONTROL NO. : _____

O. P . / I. P . NO . : _____

Name:

Age:

Sex: Male / Female

Place: Rural / Urban

Address:

Religion: Hindu / Muslim / Others

Education: Nil / Up to 9 th / SSLC / PUC / Diploma / Graduation / Post - graduation

Occupation: Unemplo yed / Student / House -hold / Agriculture / Coolie / Business / Emplo yed - Govt . / Factory / Private / Professional / Others _____

Referral: Self/Friends/Relative / G . P / Other Dept . / Knowledge of other patients treated . (CASES ONLY)

Informant: Self/ Parents (F/M) / Sibs (B/S) / Spouse (H/W) / Relatives/Friends/ Others _____ . (CASES ONLY)

Marital Status: Single / Married / Separated / Divorced / Widow(er) . T ype of Famil y: Nuclear / Joint / Extended .

Number of Persons in Family: ____ Adults; ____ Children; ____ Total Living Arrangement: Alone / Friends / Hostel / Home / Relatives house

/ Others _____

Socio - Economic Data:

Sl . No	Name	Age/Sex	Occupation	Monthl y Income
1 . 2 . 3 . 4 .				

TOTAL =

Total Income

Per Capita Income = ---------- = -- = Rs . _____

Number of People -----

AICPI (November 2006) = Rs. 494. Correction factor = 4.93 x 494/100 = 24.35

CLASS	1961 Per-capita income (in rupees)	2006 Per-capita income (in rupees)
I	≥ 100	≥ 2435
II	99 – 50	1217 – 2434
III	49 – 30	730 – 1216
IV	29 – 15	365 – 729
V	< 15	≤ 364

Impression = Class I / II / III / IV / V.

History of Substance abuse: No / Yes, specify_____

(Cases only, controls only nicotine allowed) Family history of Mental Illness: No / Yes, specify_____

Family history of Substance abuse: No / Yes, specify_____

Family history of Attempted Suicide: No / Yes, specify_____

Family history of Completed Suicide: No / Yes, specify_____

ANNEXURE-IV

DETAILS OF SUICIDAL ATTEMPT

Days taken to stabilize medically prior to psychiatric referral: _____

Site : _____ .

Method used : Poison / Drugs / Cut / Drown

Substance used: _____

Associated with Alcohol use: No / Yes .

Reason attributed by patient: Physical / Psychological / Interpersonal / Major Life Event / Financial / Accident / No reason .

Reason attributed by informant: Physical / Psychological / Interpersonal / Major Life Event / Financial / Accident / No reason . Help/Advice sought for preceding distress: No / Yes, specify_ _____

Suicidal note: No / Yes .

History of prior suicidal ideas: No / Yes, specify duration _____ . Persistent suicidal ideas during hospitalization: No / Yes .

Need for the mechanical ventilator support: No / Yes, specify duration

_____ .

Days of stay: ICU____ / Emergency____ / General ____ / Total ____ . Complications (if any, specify): _____ .

ANNEXURE-V

RISK-RESCUE RATING SCALE BY WEISSMAN AND WORDEN

RISK FACTORS	RESCUE FACTORS
Agent used: 1. Ingestion, cutting, stabbing. 2. Drowning, asphyxiation, Strangulation. 3. Jumping, shooting.	Location : 3. Familiar. 2. Non-familiar, non-remote. 1. Remote.
Impaired consciousness : 1. None in evidence. 2. Confusion, semi-comatose. 3. Coma, deep coma.	Person initiating rescue: 3. Key person. 2. Professional. 1. Passer-by.
Lesions / toxicity : 1. Mild. 2. Moderate. 3. Severe.	Probability of discovery by a rescuer : 3. High, almost certain. 2. Uncertain discovery. 1. Accidental discovery.
Reversibility : 1. Good, Complete recovery expected. 2. Fair, recovery expected with time. 3. Poor, residuals expected, if recovery.	Accessibility to rescue: 3. Asks for help. 2. Drops clues. 1. Does not ask for help.
Treatment required: 1. First aid. 2. Emergency ward care. 3. Intensive care special treatment.	Delay until discovery: 3. Immediate. 2. 1 hour. 1. Greater than 4 hour.

Risk points	Risk severity	Risk score	Rescue points	Rescue severity	Rescue Score
13 – 15	High	5	5 – 7	Least rescuable	1
11 – 12	High Moderate	4	8 – 9	Low moderate	2
9 – 10	Moderate	3	10 – 11	Moderate	3
7 – 8	Low Moderate	2	12 – 13	High - moderate	4
5 – 6	Low	1	14 - 15	Most rescuable	5

· Self – rescue automatically yields a rescue score o f 5.

· If there is undue delay in obtaining treatment after discovery, reduce final rescue score by 1 point.

Computation of Risk-Rescue Scores*

Risk Score	Rescue Score	Risk – Rescue Score
1	5	17
1	4	20
1	3	25
1	2	33
1	1	50
2	5	29
2	4	33
2	3	40
2	2	50
2	1	66
3	5	38

3	4	43
3	3	50
3	2	60
3	1	75
4	5	44
4	4	50
4	3	57

4	2	66
4	1	80
5	5	50
5	4	56
5	3	63
5	2	71
5	1	83

* These ratings have been computed on the basis of A /A+B X 100, where A = risk score and B = rescue score.

17 – 29 = Mild; 33 – 44 = Moderate; 50 – 63 = Severe; 66 – 83 = Very severe.

FINAL SCORE: RISK SCORE =

RESCUE SCORE =

RISK-RESCUE SCORE =

IMPRESSION: _____

ANNEXURE-VI

SIX-ITEM VERSION OF GOLDBERG'S GENERAL HEALTH

QUESTIONNAIRE

Read the following questions carefully. If you have the problem, tick it as "yes" or encircle it. If you do not have the said p roblem, tick it as "no" or encircle it.

SL. NO.	PROBLEM	TICK / ENCIRCLE	
1.	Have you lost much sleep over worry?	YES	NO
2.	Have you recently felt constantly under strain?	YES	NO
3.	Have you recently been able to enjoy your normal day to day activities?	YES	NO
4.	Are you recently feeling unhappy and depressed?	YES	NO
5.	Have you recently been feeling reasonably happy all things considered?	YES	NO
6.	Have you got any pain in the body lasting for six months to one year? If yes, specify: head / chest / abdomen / limbs / back / all over.	YES	NO