

Clinical Study on Psychiatric Morbidity in Suicide Attempters- A Observational Study

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Abstract

Background: Suicide is a tragic and serious preventable public health problem all over the world. It is one of the three leading causes of death globally. Usually suicide has no single cause. It is the endpoint of an individual process, in which several cultural, social, situational, psychological, and biological factors interact. The objective of the current study is to evaluate the nature of psychiatric morbidity and its severity in patients who have attempted suicide, its relation to the socio-demographic and clinical variables and the particulars of the current attempt. **Subjects and Methods:** Fifty patients with alleged history of suicide attempt were evaluated. Tools used were Socio Economic Status Schedule, Suicide Intent Scale and Comprehensive Psychopathology Rating Scale. ICD 10-AM Symptom Check List was used to evaluate and find out psychiatric diagnosis and final diagnosis was made on the basis of ICD-10- Classification of mental and behavioral disorders, Diagnostic Criteria for Research (DCR-10). **Results:** Most subjects are in the age group of 18-30, married, Hindus, with a primary education, semi-skilled workers with average monthly income of more than 3000 rupees from a nuclear family of semi urban area and belong to SESS category III. Adjustment disorder with brief depressive reaction is the most common diagnosis made and the diagnosis has statistically significant relation with past attempt, recent stressors, and motive. Type of attempt, method used, venue, lethality, and medical complication of the attempt have significant relation with, substance dependence and its total duration, gender, medication history and total duration of symptoms. Suicide intent score is statistically related with gender, total duration of symptoms, family history, motive, venue and lethality. **Conclusion:** Significant proportions of the individuals who attempt suicide have psychiatric morbidity. Attempted suicide can be considered to be a distinct sub- group of psychiatric symptoms which is usually neglected but is the most common cause of morbidity and mortality in subjects with psychiatric disorders. Patients who attempt suicide require special attention and management by all the medical professionals.

Keywords: Suicide Attempt, Diagnosis, Intent, Lethality

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Introduction

Suicidal behaviour or suicidality can be conceptualized as a continuum or a spectrum ranging from suicidal ideation or thoughts through suicidal attempts or self- destructive behavior to completed suicide.^[1,2] Suicide is derived from the Latin word suicidium, from sui caedere, which means "to kill oneself".

Suicide is a mode of death usually consequent to a complex and multifaceted behavior pattern. It is typically seen as the fatal outcome of a long-term process shaped by a number of interacting cultural, social, situational, psychological, and biological factors. It is a rare, shocking, and very individual final act, which often leaves the survivors helpless. The suicide

process model is used to organize and clarify the complexity of factors associated with suicide.

Suicide is usually preceded by years of suicidal behavior or feelings, and plans and warnings. In about half of all suicides a previous attempt is found in the person's history. Various risk or protective factors underlie suicidal behavior, and the changing balance of these helps to explain the fluctuation of suicide risk over the course of time. An appearance of suicidality means either an intensified effect of risk factors or a weakened effect of protective factors. A precipitating factor may well be decisive in explaining the precise timing of suicide in the long course of a person's suicide process. Often, however, it also allows a simple and rational explanation in the face of the complexity of suicide. The choice of a specific

method takes place at the very end of the suicide process and availability is a major factor affecting this choice. The lethality of the suicide act is related to the severity of the intent to die and the degree of mutilation caused by the act, and how quickly a method can cause death.

Suicide attempt in the present study refers to “a potentially self-injurious but non-fatal act, using a physical or chemical method, by the individual himself, carried out in clear consciousness, with the full knowledge that it was potentially dangerous to his life.”

Objectives of the study

1. To evaluate the nature of psychiatric morbidity and its severity in patients who have attempted suicide.
2. To study the relation of suicide attempts to socio-demographic variables like age, sex, marital status, domicile, economic status, education, religion, occupation, and clinical variables like co-morbidities (diabetes mellitus, hypertension, carcinoma, physical disability, chronic painful conditions and other medical conditions.).
3. To study the relation of motive, intent and lethality of the suicide attempts and the methods used by the attempters to socio-demographic factors and psychiatric or clinical variables.

Need of the study

Not many studies in India have been conducted, regarding the relation of attempted suicide to the underlying psychiatric morbidity in the individual, its severity, or its relation to the socio-demographic status of the individual. The present investigator has come across only a few published papers regarding the relation of the psychopathology to the motive, intent, lethality and the methods used, in suicide attempters.

Subjects and Methods

Source of Data

The clinical study was conducted in the Dept of Psychiatry, Shadan Institute of Medical Sciences Hyderabad which is a multi speciality hospital medical college and hospital, with catchment area extending from South India. All patients attending the inpatient facilities of the department of medicine and psychiatry with an alleged history of suicide attempt constituted the population for the study. The study was conducted from the 1st of September 2018 to the 31st of August 2019.

Method of Collection of Data

The sample for the study consisted of fifty consecutive patients with an alleged history of suicide attempt, those who satisfied the inclusion and exclusion criteria.

Inclusion Criteria

- Hospital in-patients, both male and female with alleged history of attempted suicide.
- Patients between the age group of 18 to 64 years.

Exclusion Criteria

- Patients who are unstable, unco-operative, unresponsive or on ventilator.
- Patients admitted with alleged history of attempted suicide but died in the hospital prior to the assessment.
- Cases where the self-harm was found to be accidental.

Procedure

This study has been cleared by the ethical committee of the institution. A written informed consent was obtained from all patients recruited for the study. All the patients with alleged history of suicide attempt underwent a thorough physical and mental status examination. All the relevant socio-demographic data, clinical data and the information regarding the suicide attempt was gathered and recorded using a specially designed proforma prepared for the clinical study. The socio-economic status of the patients was assessed using the Socio-economic Status Schedule.^[2] Each patient was screened using the screener of the ICD-10 AM Symptom Checklist for Mental Disorders and the ‘cases’ were identified. The psychiatric diagnosis was made according to ICD-10, Diagnostic Criteria for Research (DCR-10). The psychopathology was rated using the Comprehensive Psychopathology Rating Scale (CPRS). The intent of suicide in all the patients was assessed using the Suicide Intent Scale.^[1]

Description of the Tools

Socio Economic Status Schedule, Sodhi and Sharma (SESS)

This is designed to know the age, caste, education, technical and professional qualification, occupation, profession, income, material possessions, social participation on behalf of community, housing, accommodation, marital status, and military, scientific and intellectual achievement. This scale has a test-retest reliability of 0.74 which is sufficiently high. Regarding validity, the reported coefficient of correlation is 0.65 indicating substantial validity.

The total scores are classified into 5 (I, II, III, IV, V) socio-economic status categories. Persons getting below 10 marks are grouped in the lowest V category. Respondents getting 11-20 marks are allotted socio-economic status category IV, individuals scoring 21-34 marks are divided into socio-economic status category III and persons getting 35-50 and 51-60 should be grouped in socio-economic status categories II and I respectively.^[2]

ICD 10 –AM Symptom Checklist For Mental Disorders

ICD 10 –AM Symptom Checklist for Mental Disorders is a semi-structured instrument intended for clinicians assessment

of the psychiatric symptoms and syndromes in the categories F00-F69 of chapter one of the ICD-10-AM mental health manual.

The Comprehensive psychopathological rating scale (CPRS)

The scale has been constructed explicitly for the measurement of psychopathology and change in psychopathology.

Suicide Intent Scale, Aaron T Beck (SIS)

This scale was designed to record information regarding the intensity of the suicide attempt's wish to die at the time of the attempt, which the authors consider to be one component of suicide risk.

Statistical analysis

The results obtained were analyzed using the following statistical methods. T -test, Chi-square test, Analysis of variance (ANOVA) and Karl Pearson co-relation co-efficient.

Results

Subjects in the age group of 18- 30 years constitutes major part of the sample (70%), followed by subjects in the age group of 31-40 years (14%).

Table 1: Age Distribution

Age	Frequency	Percent
18 - 30	35	70.0
31 - 40	7	14.0
41 - 50	4	8.0
51 - 60	4	8.0
Total	50	100.0

Table 2: Gender Distribution

Gender	Frequency	Percent
Male	25	50.0
Female	25	50.0
Total	50	100.0

The sample comprises of equal number of males and females (25 each).

Married people constitute the largest sample (27 subjects) of 54%, whereas unmarried subjects constitute 42% of the sample.

Based on religion the largest group is Hindus (66%), followed by Christians (20%) and Muslims (14%).

All subjects except one have completed primary education. 11 subjects have completed pre degree (22%) and 8 have studied up to degree (16%)

Table 3: Data regarding Marital Status

Marital status	Frequency	Percent
Single	21	42.0
Married	27	54.0
Widow / wid- ower	2	4.0
Total	50	100.0

Table 4: Data regarding Religion

Religion	Frequency	Percent
Hindu	33	66.0
Muslim	7	14.0
Christian	10	20.0
Total	50	100.0

Table 5: Data regarding Educational Status

Educational status	Frequency	Percent
Degree	8	16.0
Intermediate	11	22.0
High school	6	12.0
Middle class	10	20.0
Primary	14	28.0
Illiterates	1	2.0
Total	50	100.0

Table 6: Data regarding Occupation

Occupation	Frequency	Percent
Semi profes- sional	3	6.0
Clerical	2	4.0
Skilled worker	6	12.0
Semiskilled	15	30.0
Unskilled	8	16.0
Unemployed	16	32.0
Total	50	100.0

Table 7: Data regarding Income

Income	Frequency	Percent
>3000	31	62.0
2001 - 3000	14	28.0
1001 - 2000	5	10.0
Total	50	100.0

31 study subjects have an income of above Rs. 3000/ month and comprise the majority (62%) of the sample, followed by subjects with income of Rs. 2001- 3000 (28%).

Table 8: Domicile Distribution

Domicile	Frequency	Percent
Urban	5	10.0
Semi urban	36	72.0
Rural	9	18.0
Total	50	100.0

The semi- urban group forms the largest domicile group of 36 subjects (72%), followed by rural population of 9 subjects (18%).

Table 9: Data regarding Type of family

Type of family	Frequency	Percent
Nuclear	38	76.0
Joint	11	22.0
Extended	1	2.0
Total	50	100.0

38 subjects (76%) belong to the nuclear family subtype, followed by 11 subjects (22%) who belong to the joint family and 1 (2%) belongs to the extended nuclear family.

Table 10: Data regarding Total duration of current symptoms

Total duration of current symptoms	Frequency	Percent
< 1 month	26	52.0
1 month – 1 year	9	18.0
>1 year	6	12.0
None	9	18.0
Total	50	100.0

The majority of the subjects are suffering from symptoms for a period of less than a month and constitute 26 subjects (52%). They are followed by subjects with symptoms for duration for one month to one year or who do not report of any symptoms (9 or 18% each). 6 subjects are suffering for more than 1 year (12%).

42 subjects (84%) are not dependent on any substances, 7 subjects are dependent on both alcohol and nicotine (14%) and one subject is only nicotine dependent.

4 subjects have a history of past psychiatric illness (8%). Depressive episode, bipolar disorder, dysthymia and adjustment disorder is seen in one subject each. 92% subjects have no past history of psychiatric illness.

Table 11: Data regarding Substance dependence

Substance dependence	Frequency	Percent
Nicotine	1	2.0
Alcohol and Nicotine	7	14.0
None	42	84.0
Total	50	100.0

Table 12: Data regarding past psychiatric disorders

Past psychiatric disorder	Frequency	Percent
Present	4	8.0
Absent	46	92.0
Total	50	100.0

Table 13: Data regarding medication history

Medication history	Frequency	Percent
Present	8	16.0
Absent	42	84.0
Total	50	100.0

8 subjects are on medication prior to the suicidal act (16%). The medications patients receiving are: oral hypoglycemics, anticonvulsants, analgesics, multi-vitamins, sedatives, anti retroviral therapy, antibiotics, and steroids. 4 subjects have attempted the act using the prescribed medication itself.

Table 14: Data regarding past suicide attempts

Past suicide attempts	Frequency	Percent
Present	4	8.0
Absent	46	92.0
Total	50	100.0

4 patients have attempted suicide in the past (8%). 3 subjects have single attempts whereas one have two attempts in the past. 46 subjects have no history of prior attempts (92%)

Table 15: Data regarding the type of attempt

Attempts	Frequency	Percent
Planned	5	10.0
Impulsive	45	90.0
Total	50	100.0

In 45 subjects (90%), the attempt is impulsive and in 5 subjects it is planned (10%).

Majority, 26 subjects have consumed insecticides (52%), followed by 9 (18%) who have overdosed on medication

Table 16: Data regarding method used for the attempt

Method/ methods used	Frequency	Percent
Insecticides	26	52.0
Kerosene ingestion	1	2.0
Ingestion of disinfectant cleaners	8	16.0
Medication overdose	9	18.0
Partial hanging	1	2.0
Jumping from height	1	2.0
Others	4	8.0
Total	50	100.0

and 8 (16%) who have consumed disinfectant cleaners. Other methods used are: ingestion of kerosene, partial hanging, jumping from height, strangulation, hitting the head to a tree. 2 of the subjects have used more than one method, at different time period in a single day.

Table 17: Data regarding lethality of the attempt

Lethality	Frequency	Percent
Low	18	36.0
Medium	10	20.0
High	22	44.0
Total	50	100.0

22 out of 50 subjects have attempted an act with high lethality (44%), 18 of the acts are of low lethality (36%) and 10 are of medium lethality (20%)

Table 18: Data regarding suicide intent score

Intent score	Frequency	Percent
Low	12	24.0
Medium	21	42.0
High	17	34.0
Total	50	100.0

Majority of subjects, 21 (42%) have medium intent, followed by 17 subjects (34%) who have high intent and only 12 (24%) have low intent.

Table 19: Data regarding SESS category score

SESS Category	Frequency	Percent
Cat II	1	2.0
Cat III	44	88.0
Cat IV	5	10.0
Total	50	100.0

Majority, 44 subjects (88%) belong to category III followed by 5 (10%) in category IV and 1 (2%) in category II.

The number of days the patients are admitted in MICU ranges from 0-17 days, with the mean being 1.86 and standard deviation of 2.5. The average number of days in the hospital ranges from 1- 26 days with the mean being 6.82 (SD: 4.6). Suicide Intent Scale observed score ranges from 8-26 (mean= 11.16), reported score is 5-19 (mean 13.86) and total score is 15-38 points (mean score= 25). Minimum socio- demographic status schedule score is 15 and maximum is 47 with the mean value being 26.4. In Comprehensive Psychopathology Rating Scale, the scores ranges from 1-28 (mean 11.6) for reported subscale, 0-7 (mean 1.36) for observed subscale and 1-30 (mean 8.219) for total score.

Majority of the sample are diagnosed with adjustment disorder, i.e. 25 subjects (50%), followed by depressive episode in 12 (24%) subjects and persistent mood disorder in 5 (10%) subjects. Adjustment disorder brief depressive reaction is the commonest diagnosis made; in 19 (38%) subjects. 8 subjects do not have symptoms accounting to any diagnosis (16%).

Discussion

The present investigation is carried out on a convenient sample of fifty patients with alleged history of attempted suicide admitted to departments of medicine and psychiatry of Shadan Institute of Medical Sciences, Hyderabad. This institute is a multispeciality, general private sector, teaching hospital, catering to the needs of poor people around south India, Hyderabad. By and large patients coming to this hospital belong to middle and lower socio-economic class. The hospital has six general medical units with bed strength of 360 in the medicine department and three psychiatry units in family and general psychiatry wards, with bed strength of 94.

Socio-demographic variables:

In the present study, majority of the subjects (70%) are in the age group of 18-34 years and the age group of 51-60 have the least number of subjects. Similar findings have been reported by both Indian, [3-5] and Western studies showing suicide attempts more common in the age group of 18-34. [6,7] One study finds attempted suicide rate to be more common in subjects above 50 years. [6] This indicates the growing trend of increased attempt among young adults, which may be due to sudden increase in responsibilities, job stress, marriage and problems with adjustment. This also points to poor coping skills in this age group which may improve as age progresses. It is also the usual age of onset for substance use and psychiatric disorders, which have a higher risk of suicide rates. This indicates the need for prompt recognition of suicidal ideation and treatment in this age group.

Table 20: Descriptive statistics

Scale		N	Minimum	Maximum	Mean
	Number of days in MICU	50	0	17	1.86
	Number of days in hospital	50	1	26	6.82
SIS	Observed	50	8	26	11.16
	Reported	50	5	19	13.86
	Total	50	15	38	25.08
SESS	Total	50	15	47	26.40
CPRS	Reported	50	1	28	11.60
	Observed	50	0	7	1.36
	Total	50	1	30	12.96

Table 21: Data regarding psychiatric diagnosis

Psychiatric diagnosis		ICD 10 code	DCR	Freq.	%
Nil		-		8	16
Depressive episode	Moderate, without somatic syndrome	F32.10		5	10
	Severe, without psychotic symptoms	F32.2		3	6
	Unspecified	F32.9		4	8
Persistent mood	Dysthymia	F34.1		3	6
	Other	F34.8		2	4
Adjustment disorder	Brief depressive reaction	F43.20		19	38
	Prolonged depressive reaction	F43.21		6	12
Total				50	100

The present study has equal number of male and female attempters. Some studies find higher rates of attempt in females while in others the rate is higher in males.^[8-13] In general it is considered that, females are two to three times more likely to think about suicide and almost twice as likely to attempt but males are four times as likely to die by suicide.^[14]

Married subjects are found to have higher rates of attempt (54%) compared to subjects who are single (42%). This finding is in agreement with most Indian and a western study.^[7,15,16] But, other studies, both Indian and western study find marriage to be a protective factor.^[12,17] Most of the attempts in married subjects are in the age group of 50% which may indicate the increased stress and responsibility following marriage seen in these subjects.^[18-24]

Hindus are the most predominant group (66%) in the current study and it was in keeping with most Indian studies.^[24] This could be because India is a predominantly Hindu country. It

may also be due to the strong religious teachings and condemn against suicide in Christianity and Islam religion.

98% of individuals have completed minimum of primary education but only 38% have studied beyond matriculation. Some prior studies also find higher rates of suicide attempts in educated patients (mostly upto intermediate) 18 while others find increased risk in illiterates.^[11,16] Higher levels among people with higher education may be due to better employment status leading to better financial status.

Most of the individuals who attempted suicide are employed (68%), with almost half of them being semiskilled workers comprising of farmers, fishermen, hunters and loggers (30%). Most of the reviews find rates to be higher in employed.^[15] subjects compared to unemployed 36 which supports the present study.

Majority of the subjects in the present study are from families with an average monthly income of more than 3000 (62%)

which is not consistent with the past results, which shows the average monthly income of less than 3000 to be a higher risk factor for suicide attempt. [4,10] This difference may be because of the increasing number of working members in the families.

Semi-urban group forms the largest domicile group in the present study (76%). This is a new finding, as all the prior studies find increased rates in either rural or urban population. [10,18,24] Many patients from semi-urban and rural areas attend hospitals in Mangalore, as it is a city. Semi-urban population around Mangalore is exposed more to the rapid modernization compared to that of the rural population, due to its closer proximity to the city. This rapid increasing in stress may explain the result.

As in most prior studies, in the present study finds higher rates (76%) of suicide attempt, in subjects from nuclear family. [11,19] In the rapid urbanizing India, stress and crisis are more frequent, especially regarding financial status. Joint families act as a buffer and reduce the stress to some amount. The individual also feels a sense of support and security, and gains the confidence to cope with the responsibilities, as it is shared among all the family members. Majority of the subjects (88%) belong to Socio-economic Status Schedule category III. None belong to either Category I or V.

Clinical variables

In the present study, most subjects (52%) are suffering from psychiatric symptoms for a period of less than a month. Most prior studies have not specified the duration of the symptoms prior to the attempt. The author has come across only one study in which most patients have the symptoms for a period of 4 weeks- 4 months prior to the attempt. [5]

The present study finds only 16% subjects to be dependent on a substance. Alcohol dependence is the most common (14%), with total duration of dependence less than 10 years in majority (50%) of the subjects. Previous studies find substance use disorder in the range of 4- 35%. [13,20,21] Alcohol dependence syndrome is found in 8- 17% of subjects which is consistent with the present study.

Medical or surgical comorbidity prior to the attempt is seen in 14% of the patients. 71% of these patients have the disorders for less than 10 years period. The physical illness encountered are, diabetes mellitus, bronchial asthma, urinary tract infection, epilepsy, ischemic heart disease, chronic painful condition and HIV and 16% subjects are on medications. It is found that 8% of the subjects overdosed on the prescribed medication itself. Medical disorders have been found in prior studies in the range of 7-22% and the most common comorbidity is epilepsy. [2,22]

Past psychiatric illness is present in 8% of the study subjects (depressive episode, bipolar disorder, dysthymia and adjustment disorder). Past suicide attempts are present in

8% of the subjects. 24% of the patients have a positive family history. Six subjects have history of psychiatric disorders (4 substance dependence, 2 mood disorders), 5 have chronic medical/ surgical illness and one has suicide in family member. Prior studies also find past psychiatric disorders, [12] past history of attempt, [13,22] and family history of psychiatric or medical disorders to be more common in suicide attempters. [22]

Psychiatric diagnosis

Present investigator uses ICD 10-AM Symptom Check List to evaluate and find out psychiatric diagnosis. Diagnosis of psychiatric disorders is made on the basis of ICD- 10- Classification of mental and behavioral disorders, Diagnostic Criteria for Research (DCR-10). Prior studies use ICD and also DSM for the diagnosis. Few use standardized scale also. [23]

Half of the patients are diagnosed to have adjustment disorder (38% with brief depressive reaction and 12% with prolonged depressive reaction). 24% are diagnosed with depressive episode (10% are moderate depressive episode without somatic symptoms and 6% are severe without psychotic symptoms). Remaining 10% are having persistent mood disorders (Dysthymia and others). 16% of the subjects do not have symptoms accounting for any diagnosis. In previous studies, most common diagnosis is of depressive disorder in the range of 16- 60%. Few studies find adjustment disorder to be the most common diagnosis in the range of 30-33%. [21,23]

Conclusion

Present study concludes that a significant proportion (84%) of the individuals who attempt suicide have psychiatric morbidity. Young married, educated adults from a nuclear, middle class, semi urban family with a recent stressor have the highest risk. Most of the attempts, though impulsive and of medium intent mostly by consuming insecticide are highly lethal and produce significant complications. Most common diagnosis is of adjustment disorder but depressive disorder patients score the highest on psychopathology. Attempted suicide could be considered as a distinct sub- group of psychiatric symptoms which is usually neglected but is the most common cause of morbidity and mortality in subjects with psychiatric disorders. Subjects who attempt suicide require special attention and management by all the medical professionals.

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