

## A CROSS SECTIONAL ANALYTICAL STUDY OF PSYCHO SOCIAL FACTORS INVOLVED IN THE FIRST ATTEMPT SUICIDE OF YOUNG ADULTS DONE AT THANJAVUR MEDICAL COLLEGE, TAMILNADU

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### ABSTRACT

#### BACKGROUND

Attempted Suicide is 8-10 times higher than the number of successful suicides. The suicide risk among persons who attempted suicide is forty times higher than in the general population and the risk persist for many years. Attempted suicide is much more common in young adults due to biological, psychological and social factors.

#### MATERIALS AND METHODS

A cross sectional analytical study involving a sample of 30 in the age group 17-40 years who attempted suicide for the first time. Semi-structured socio-demographic proforma, ICD-10 International Personality Disorder Examination (IPDE), Beck's Suicide Intent Scale, Holmes and Rahe Stress scales, were administered. Descriptive statistics, Pearson Correlation Coefficient, Student T test, were used to analyse the data.

#### RESULTS

Among this sample of 30, 18(60%) were in the age group of 17–24 years. Females (84%) outnumbered males (16%). Majority of the suicide attempters 19 (63.3%) belonged to the upper lower socio- economic status. 70% of the cases were from rural areas. The commonest mode of suicide attempt was by consuming poison 96.6%. 8 (26.7%) were found to have a definite personality disorder. Among those 8 cases, 5 (16.7%) were found to have Anankastic Personality Disorder, 2 (6.7%) were found to have Dependent Personality Disorder and 1 (3.3%) person qualified for Borderline Personality Disorder Impulsive subtype. 3 (10%) persons were found to have medium suicide intent whereas 7 (23.3%) had low intent. On assessing their stress level, 3 (10%) people had moderate risk whereas 12 (40%) had slightest risk for developing illnesses. On comparing the scores of Holmes Rahe Stress scores of the 17-24 age groups and 25-34 age groups, the p value was 0.010 which was statistically significant.

#### CONCLUSION

Similar to suicide, attempted suicide is much more common in the 15-34 age groups. The reason being, various biological changes take place within their body system, development of one's personality and the psychosocial stressor events they undergo. In order to prevent Suicide, it is absolutely necessary to identify those risk factors in such biologically vulnerable group.

#### KEYWORDS

Suicide, Attempted suicide, Personality, Stress, Anankastic.

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#### BACKGROUND

Suicide is the conscious act of self-induced annihilation.<sup>1</sup> It is conceptualised as a continuum ranging from suicidal ideation and communication to suicide attempts and completed suicide. It is a complex phenomenon associated

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with psychological, biological and social factors. Currently, suicide is considered as one of the leading causes of death Worldwide. International data from the World Health Organization indicate that suicide occurs in approximately 16.7 per 100,000 persons per year and accounts for 1.5 percent of all deaths.<sup>2</sup> The suicide rate among young adults has been rising and they are currently the group at high risk in developed and developing countries. In particular, countries in transition, such as Asia are showing an alarming rise in youth suicide.

According to the estimation done by World Health Organization in the year 2000, India and China are responsible for 30 percent of suicide committed worldwide. India ranks second next to China in the total number of



suicides and ranks forty five in suicide rate. A large proportion of suicides 41 percent are committed by young adults in the age group of 15-29 years. Youngsters below the age of 14 are responsible for 3.6 percent of all suicides which leaves 90 percent of the suicide committed by persons between 15– 59 years. This figure refers to only successful suicides.

In contrast, attempted suicide is 8 to 10 times higher than the number of successful suicides.<sup>3</sup> The suicide risk among persons who attempted suicide is forty times higher than in the general population and the risk persist for many years.<sup>4</sup> Similar to suicide, attempted suicide is much more likely to occur in the 15-34 age groups. The reason being, various biological changes take place within their body system, development of one's personality and the psychosocial stressor events they undergo like change of school, entry into a college, marriage, unemployment, job related stresses etc., With this background, it was intended to study the socio demographic, psychosocial and personality factors that were associated with young adults who attempted suicide for the first time in their life, because it provides a measure of the mental health status in the population studied and allow recognition of specific groups or communities in greater need of mental health services.

## MATERIALS AND METHODS

The objective of the study is to assess the socio demographic, psychosocial and personality risk factors in young adults between the age group of 17 and 40, who attempted suicide for the first time in their life and to assess the degree of suicidal intent, the stressful life events they were under while committing such acts.

**Study Design-** It is a cross sectional study using the descriptive statistics both qualitative and quantitative analysis of data. The sampling method used was purposive sampling.

**Study Setting-** The study was carried out in Psychiatry Out-Patient department of Thanjavur Medical College Hospital which caters rural and urban population. 30 individuals in the age group between 17 and 40 with history of first attempt suicide who were referred from medical and surgical wards for suicide risk assessment were recruited once their general condition was improved after the suicidal attempt.

**Inclusion Criteria-** Individuals with 17 to 40 years of age of both genders who attempted suicide for the first time.

**Exclusion Criteria-** Individuals with history of previous suicide attempt, independent psychiatric disorder, family history of major psychiatric disorder, Substance abuse or dependence and general medical and neurological diseases were excluded.

**Study Protocol and Data Collection-** During recruitment, patients fulfilling the inclusion and exclusion criteria were selected. They were administered semi-structured socio-demographic proforma, ICD-10 International Personality Disorder Examination (IPDE), Beck's Suicide Intent Scale, Holmes and Rahe Stress scales. Approximately 90 – 120 minutes were spent for each patient to administer all these instruments. Data collection was done during the period February – June 2017.

**Data Analysis-** Data were analysed using the descriptive statistics to express the mean values, frequency distribution and standard deviation. The relationship between suicidal intent and other variables were correlated by Pearson correlation co-efficient. Student T test was used to compare the groups within the sample. The predictive value on the scales that were used was analysed by multiple linear regression.

**Ethical Considerations-** The study was approved by the Ethical Committee of the Institution. Informed consent was obtained from the participants before recruiting them and the participation is voluntary and was freely allowed to withdraw at any time.

## RESULTS

Among this sample of 30, 18 (60%) were in the age group of 17–24 years. Females (84%) outnumbered males (16%). Majority of the suicide attempters 19(63.3%) belonged to the upper lower socio-economic status. 70% of the cases were from rural areas. The commonest mode of suicide attempt was by consuming poison 96.6% (Table 1).

8 (26.7%) were found to have a definite personality disorder (Table 2). Among these 8 cases, 5 (16.7%) were found to have Anankastic Personality Disorder, 2 (6.7%) were found to have dependent personality disorder and 1 (3.3%) person qualified for borderline personality disorder impulsive subtype.

3 (10%) persons were found to have medium suicide intent as per Beck's suicide intent scale whereas 7(23.3%) had low intent (Table 3). On assessing their stress level, 3 (10%) people had moderate risk whereas 12(40%) had the slightest risk for developing illnesses (Table4).

The correlation between stress and suicidal intent was not statistically significant as the p-value was above the level of 0.05 (Table 5).

On comparing the suicide intent between the two age groups 17-24 and 25 -34 by using two tailed t-test, the computed p value was greater than the significant level of 0.05 (Table 6).

When comparing the Holmes Rahe Stress Scale scores between the 17-24 age groups and 25-34 groups, the p value was 0.010 which was statistically significant (Table 7).

On comparing the Beck suicidal intent score of 15 & above between the two groups of persons with personality disorder and without personality disorder, it was found that

the mean score was more in persons with personality disorder. But it does not have any statistical significance as the p value was above 0.05.

Variables		Frequency	Percentage
Age	17-24	18	60.0
	25-34	12	40.0
Gender	Male	4	13.3
	Female	26	86.7
Literacy	Illiterate	2	6.70
	Primary	2	6.70
	Middle school	10	33.3
	High School	10	33.3
Employment status	College	6	20.0
	Employed	11	36.7
	Unemployed	6	20.0
	Housewife	9	30.0
Socio-economic status	Student	4	13.3
	Upper middle	5	16.7
	Lower middle	6	20.0
Marital status	Upper lower	19	63.3
	Married	12	40.0
	Unmarried	16	53.3
	Divorced	1	3.30
Domicile	Widow	1	3.30
	Rural	21	70.0
Family type	Urban	9	30.0
	Nuclear	20	66.6
	Joint	10	33.3
Mode of attempt	Poisoning	29	96.6
	Hanging	1	3.33
	Drowning	0	0
	Self-immolation	0	0
	Other modes	0	0

**Table 1. Frequency Distribution of Socio-Demographic Variables**

		Number of Cases	Percentage
With Personality Disorder	Borderline Impulsive	1	3.3%
	Anankastic	5	16.7%
	Dependent	2	6.7%
Without Personality Disorder		22	73.3%

**Table 2 Frequency Distribution of Cases with Personality Disorder**

Suicidal Intent Score	Frequency	Percentage
Scores less than 15	20	66.7
Low intent (15-19)	7	23.3
Medium intent (20-28)	3	10.0
High intent (>29)	0	0
<b>Total</b>	<b>30</b>	
<b>Mean 11.552 SD 5.234</b>		

**Table 3. Beck Suicide Intent scores**

Holmes Rahe Stress Score	Frequency	Percentage
Scores less than 150	15	50.0
Slight risk (150)	12	40.0
Moderate risk (150-299)	3	10.0
High risk(>300)	0	00
<b>Total</b>	<b>30</b>	
<b>Mean 35.621 SD 48.364</b>		

**Table 4. Holmes Rahe Stress Scale Scores**

	N	Range	Mean	SD	r <sup>2</sup>	p value
Beck suicide Intent Scale	30	2-24	11.96	5.623	0.05	0.234
Holmes Rahe stress Scale	30	0-158	39.70	52.51		

**Table 5. Correlation between Beck Suicide Intent Scale and Holmes Rahe Stress Scale**

Beck suicide Intent Score	Age in Years						t	DF	p
	17-24			25-34					
	N	Mean	SD	N	Mean	SD			
	18	10.611	5.054	12	14.00	6.030	-1.666	28	0.107

**Table 6. Comparison of Suicide Intent Scores between the Age Groups 17-24 & 25-34**

Holmes Rahe Stress Scale	Age in years						t	DF	p
	17-24			25-34					
	N	Mean	SD	N	Mean	SD			
	18	20.111	38.690	12	69.083	58.196	-2.777	28	0.010*

**Table 7. Comparison of Holmes Rahe Stress Scores between the Age Groups 17-24 & 25-34**

Beck Suicide Intent Score 15 & above	Suicide Attempters						t	DF	p
	With Personality Disorder			Without Personality Disorder					
	N	Mean	SD	N	Mean	SD			
	3	19.333	1.528	7	18.143	3.237	0.594	8	0.569

**Table 8. Comparison of Suicide Intent in Persons with Personality Disorder & without Personality Disorder**

## DISCUSSION

Risk factors observed to be associated with the suicide attempts in this study were consistent with those reported commonly in literature. However, there were some variations and the results suggested locally relevant issues that can contribute to prevention strategies. A preponderance of younger age groups is frequently noted in suicide attempts reported elsewhere. In this study, 60% of the attempters fall in the age group of 17-24 years and 40% were between 25 and 34. The Life events such as entry into a new college, failure in examinations, job related stress, unemployment, marriage were believed to play a crucial role in this age group. Likewise impulsivity is one factor that would be one of the reasons for high preponderance of higher suicide rate in young adults. More males commit suicide than females, whereas more females tend to attempt suicide than males.<sup>5</sup> In this index study, female attempters were more than the males. The overall percentage in females was 86.7 while in males, it was 13.3. In the 17- 24 years age group, the male- female ratio was 1:8 whereas it was 1:6 in the 25-34 years group. The wide variations in the ratio in this study might be due to exclusion of many men on the ground of consumption of alcohol while attempting suicide. Rural-urban differences in socio economic status, access to means, as well as access to and facilities of health services may all contribute to varying rates of suicide that have been reported from Indian studies.<sup>6</sup> Most of the attempters in this study were from rural areas. Although there was no significant difference in the methods used, the suicide intent score was comparatively higher than the persons from urban areas.

A considerable proportion of attempters in this study were employed (36.7%). A sizeable portion of the attempters 20% excluding students and house wives were unemployed. A comparison of employed (n=11) and unemployed (n=6) attempters revealed that significantly more of the employed subjects had higher stress scores and higher suicide intent scores ( $P < 0.001$ ). Unemployment is a known risk factor for suicide attempts.<sup>7</sup> In the highly competitive situation for jobs in India, being unemployed is extremely stressful. However, employed attempters had significantly higher stress scores than the unemployed, which might explain partly their reason for attempt. Considering the type of employment, skilled workers were most represented, followed by the self-employed and professionals. These work groups probably experience job uncertainties more often than those in salaried government jobs.

In this study, the upper lower socio economic status was most predominant (63%) in the attempters. Lower economic status and poverty have been associated with suicide attempts.<sup>8</sup> In the fast changing economic scenario, those in the lower socio economic status are highly stressed, which probably makes them the most vulnerable to suicide attempts. The majority of the suicide attempters 60% were single which included unmarried, divorced and widowed. The mean stress scores of married persons were

more than that of unmarried persons. Being single, divorced or separated, or widowed have been found to be risk factors in many Western studies.<sup>9</sup> A small minority (around 6%) were separated or widowed and a sizeable proportion 53.3% was unmarried. Not being able to get married is a significant stress, especially for females and their families in India, which has been found to be associated with suicide.<sup>10</sup> A considerable proportion of attempters had life events related to relationships and marriage, e.g., broken love affairs, getting married, conflict with in-laws, marital conflict, separation, divorce, and extramarital relationship of the spouse. Marital and relational problems have been frequently reported in Indian studies.<sup>11</sup>

The proportion of attempters from nuclear families (66.6%) was more than that from joint families (33.3%). The mean score of stress scale and suicide intent scale of attempters from nuclear families was higher than the attempters from joint families. Varieties of family patterns have been described that predispose an individual to suicidal behavior.<sup>12</sup> This suggests that factors specific to nuclear families might be involved in many attempts, which would need further study. As the traditional joint family system in India is functionally changing to nuclear units, the risk might be changing too. Poisoning and hanging as observed in this study have been the common methods for suicide attempts in South India.<sup>13</sup> Poisoning was used more frequently by first-time attempters, depressives, and attempters without psychiatric disorders. The most common method used by attempters in this study was by consuming poison 96.3%. Only one female attempted suicide by hanging herself at home impulsively who was identified to be having borderline personality disorder.

In this index study, the most common life events reported by the attempters were change in school, failure in examination, marriage, trouble with In-Laws, pregnancy, loss of love object in the 17-24 age group whereas change in financial state, change in living conditions, minor mortgage, spouse stops work were the life change units met by the 25-34 age group over the last year.

A little over one third of the attempters reported unequivocal intent to die; similar to reported frequencies of around 33 to 41%.<sup>14</sup> Intent to die has been associated with psychiatric illness, higher life event scores, and drastic and instantaneous methods of higher lethality with dangerous medical consequences. In this study, attempters with low to medium intent to die were about 33.3%. It was evident that the ones who were more determined to die, had planned their attempts days and hours earlier. Out of the 2 cases who communicated their intent with suicide note, one female scored high in both Beck's suicide intent scale and Holmes & Rahe's stress scale.

Suicide attempters with Borderline Personality Disorder displayed greater severity of overall psychopathology, depression, hopelessness, suicidal ideation, past suicide attempts, and had poorer social problem solving skills than those without a Borderline Personality Disorder Diagnosis.<sup>15</sup>

In this index study, personality disorder was identified in 26.7% of the patients. Anankastic Personality Disorder was the most diagnosed one 16.7%, followed by Dependent Personality Disorder 6.7%. Borderline Personality Disorder has been reported as the most common personality disorder in several studies was reported to be as low as 3.3% in this study. As this study was designed to ascertain the personality disorder in first attempt patients, this study might have excluded potential borderline patients. The only female who attempted suicide by hanging was identified to be having Borderline Personality Disorder impulsive type. This finding is similar to the study done by Chandrasekaran et al 2003.

### Limitations

The study design with a sample of 30 cases is a small number and one must be cautious in generalising the results to the community because the data available was general hospital based and not community based. Another issue of study design is its cross-sectional nature, which limits interpretability. Many attempters and their relatives were not willing to take part in the study and they opted out at the beginning of the interview itself. The sample comprised of patients belonging to low & middle socio economic status attending general hospital and it does not include people from upper socio economic class. This may account for the predominance in the lower class. The information obtained in the present study was based on self-reports from the patients. Though the self-report method has been shown to be effective, its validity in studying issues like suicide is not established.

### CONCLUSION

The present study was conducted to assess the psychosocial risk factors and personality disorders in first attempt suicide individuals who were admitted in a tertiary care referral centre of south India. It was also intended to study the degree of suicide intent, stressful events they were under when they do the suicidal act. To sum up, it can be said that this study concurs with the finding of other studies in regard to predominance of adults in the age group between 17 and 24 years than the middle age adults of 25-34 years. Female preponderance was high. There was more representation of single adults hailing from upper lower socio-economic sections, belonging to nuclear family of rural background. The occurrence was high in persons who were employed than unemployed. The persons with high suicide intent were also found to be under severe stress. Poisoning was found to be the most common method adopted by many attempters. Most common reason attributed for the suicide attempt was interpersonal problems within the family and the findings are similar to earlier studies. Two persons attempted suicide, after leaving a suicide note, among which one case was found to be having high suicide intent comparing others. The personality disorder more frequently encountered in this study of first attempt suicide was anankastic personality disorder than the borderline

personality disorder which was often reported in repeated suicide attempts or deliberate self-harm in many of the studies worldwide. The suicide intent score was comparatively more in persons with personality disorder than in persons without personality disorder which was not statistically significant. On comparing the scores of stressful life events met by the younger adult's 17-24 age groups and the 25-34 age groups, the stress was high in 25-34 groups which was statistically significant.

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