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MAGNITUDE OF PSYCHOLOGICAL MARKERS IN SUICIDE ATTEMPTERS

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Abstract-
Background: Suicide attempter is an individual who engaged in the act of killing self but survives out of it. Suicide rates are increasing in India every year. Behind most of the completed suicide, considerable previous attempts have been witnessed. Suicide is preventable if the psychological string is well understood.
Aim: To identify the existing level of psychological markers – defeat, entrapment & hopelessness in suicide attempters and correlation between these constructs.
Materials & Methods: A descriptive research design was adopted and sample size 120 was determined using Open Epi – sample size calculator. Both genders, between 18 & 60 years old and attempted by hanging, drug overdose or ingestion of poison were included. Gilbert and Allan's defeat, entrapment scale & Beck hopelessness scale were used to gather data.
Results: Majority were 20-30 years old during their present suicide attempt and the mean age was 27.6 + 6.3. Interpersonal issues were the most common cause of the attempt and majority ingested poison. Mean level of all the three constructs were moderately high and positively correlated with each other.
Conclusion: Suicide attempters still experience moderate defeat, high entrapment, and moderately high hopelessness after the attempt which could risk a future attempt.
Keywords- Defeat, Entrapment, Hopelessness, Suicide attempt, psychological markers**.**

I. INTRODUCTION

Suicide is a major tragedy that affects communities of all regions in the world. More than 727000 people lives are taken by suicide and a considerable number of suicide attempts are being made more than this. Low- and middle-income countries have worrying counts of suicides and attempts. As on 2021, suicide is the third leading cause of death among people aged between 15-29 years. Prevention of suicide relies upon many factors, understanding and timely intervening people at risk are one among them [1].
India had no nationwide suicide prevention strategy until the year 2020. The focus upon this was thrown by National Mental Health Care Act, 2017 which decriminalized the suicide. Followed by this, National Suicide Prevention Strategy (NSPS) was launched in India on 21st November, 2022. This first suicide prevention policy primarily aims to reduce suicide mortality by 10% by the year 2030, compared to the year 2020 [2].
National Crime Records and Bureau, India (2021) reported that suicide related deaths were 12 per one lakh people. The higher suicide deaths were reported in Maharashtra, Tamil Nadu, Madhya Pradesh, West Bengal and Karnataka. These five states accounted for 50.4% suicide deaths in the Nation. The rate of increase is steeply hiking since 2017 from 1,29,887 to 1,64,033 in 2021. The report revealed a considerable number of transgender suicides. Tamil Nadu reported to be the top in mass and family suicides [3].
A number of theorists presented their view on why suicide occurs. Pioneering suicidologist Edwin Shneidman's theory stresses that suicide is not necessarily the wish to die but is rather a mean to end the psychological pain. He believed that majority of suicides occur due to thwarted love, acceptance and belonging, excessive helplessness, feeling that one has no control, damaged self-image which invokes feelings of avoidance, shame, defeat and humiliation. Human behavior is so complex and driven by various motivations. At times, they find a

deviant escape behavior in some situations, characterized by streaks of self-destruction or "suicidal behavior." Defeat and entrapment have been hypothesized as central to this behavior. [4].
Sense of defeat is induced by a failure to attain, or loss of valued resources, including social and material resources such as financial instability, social put down or attack from others and internal sources of attack including self-criticism, unfavorable social comparisons or unachievable ambition [5].
Entrapment is defined as a felt urgency to escape from an unbearable situation from which there is no perceived escape. Feelings of entrapment mediate the suicidal ideas which are expressed as "there was no way out," or "had no good options" [6].
Hopelessness is a subjective emotion & a critical warning sign in which the person feels no control, confidence, courage and energy to meet life's goal and the future is viewed as negative [7].
The theoretical models of suicide have highlighted the importance of specific psychological states in increasing suicidality such as defeat, entrapment, hopelessness, perception of burdensomeness, thwarted belongingness and pain. Many of these theoretical models have hypothesized that the simultaneous experience of some of these cognitive-affective states increases an individual's suicide risk. Development of great knowledge and awareness on complex bio-psychological risk factors that precedent suicide behaviors would be a key in planning early and appropriate treatment [8].

II. AIMS & OBJECTIVES

This study was conducted with the aim to identify the psychological markers, specifically the levels of defeat, entrapment and hopelessness existing in suicide attempters who were on treatment at tertiary care hospital in Erode district, Tamilnadu, India. Correlation between these variables were also studied.

III. MATERIALS & METHODS

Design of the study: This study was conducted within the frames of descriptive design.
Setting: This study was conducted in a tertiary care hospital in Erode district, Tamilnadu, India.
Samples: Individuals who made a suicide attempt and admitted in the selected setting were selected as the samples for this study.
Sample size & Method of sampling: The study was carried out among 120 suicide attempters over the period of 6 months between Apr-2025 and Oct-2025. Consecutive sampling technique was adopted to select the samples who met inclusion and exclusion criteria.
Criteria for sample selection: Conscious and oriented individuals, who made a lethal or non-lethal suicide attempt and admitted in the selected setting were the samples for this study. Irrespective of gender, all the suicide attempters who belonged to 18-60 years and their means of attempt were either hanging, drug overdose or ingestion of poison were included in the study. The suicide attempters who were having known psychiatric morbidity were excluded.
Data collection instruments: Background profile and suicide attempt related variables were gathered using a structured questionnaire. Gilbert and Allan's defeat scale (16 items), entrapment scale (16 items), and Beck hopelessness scale (20 items) were used to assess the psychological markers of suicide attempt. Interview technique was used to collect data from the study participants.
Ethical Considerations: Study protocol was approved by Institutional Ethical Committee. Informed consent was obtained from the participants by ensuring their information privacy. Anonymity of the samples was maintained.
Analysis of the data: The gathered data was analyzed and interpreted using descriptive statistics.

IV. RESULTS

a) Distribution of background profile

The percentage distribution of suicide attempters' background profile depicts that most of the participants were 20-30 years old during their present suicide attempt, yet a considerable near equal percentage of attempters were in 31-40 years age group. The mean age of the samples was 27.6 + 6.3. In the view of gender, majority were male. Most of the participants had high school level education, self-employed, had ₹10001-15000 monthly family income. Data revealed that majority were married, having less than 6 hours of sleep regularly and rural inhabitant.

Table 1: Background profile of the study samples:

S.No	Background profile	Frequency	%
1	**Age (in years)**		
	a) 20-30	58	49
	b) 31-40	46	38
	c) 41-50	12	10

	d) 51-60	4	3
2	**Gender**		
	a) Male	67	56
	b) Female	49	41
	c) Transgender	4	3
3	**Educational status**		
	a) No formal education	4	3
	b) Primary school level	36	30
	c) High school level	59	49
	d) Graduate and above	21	18
4	**Occupation**		
	a) Unemployed	27	23
	b) Private employee	37	30
	d) Self employed	56	47
5	**Marital status**		
	a) Unmarried	33	28
	b) Married	69	58
	c) Separated	10	8
	e) Widow/Widower	8	6
6	**Family Monthly income (in INR)**		
	a) Below 10000	16	13
	b) 10001-15000	73	61
	c) 15001-20000	10	8
	d) Above 20000	21	18
7	**Hours of Sleep**		
	a) Less than 6 hours	83	69
	b) 6-8 hours	29	24
	c) More than 8 hours	8	7
8	**Domicile**		
	a) Urban	43	36
	b) Rural	77	64

b) Distribution of suicide attempt related variables

Table 2 illustrates the suicide attempt related variables of the study samples in which most of them were ingested poison in the current attempt and interpersonal issues were the most common cause of the attempt. Most of the samples had no similar attempts before and history of suicide in the family was null. Psychoactive substances were not used by most of the participants.

Table 2: Suicide attempt related variables of the study samples:

S. No	Suicide attempt related variables	Frequency	%
1	**Mode of current suicide attempt**		
	a) Ingestion of poison	73	61
	b) Drug overdose	35	29
	c) Hanging	12	10
2	**Cause of current suicide attempt**		
	a) Interpersonal relationship issues	57	48
	b) Socio-economic issues	27	22
	c) Academic issues	13	11
	d) Health issues	6	5
	e) Job-related issues	17	14
3	**Number of previous suicide attempts**		
	a) Nil	62	52

	b) Once	47	39
	c) Twice and above	11	9
4	**History of suicide attempt in family**		
	a) Present	38	32
	b) Not present	82	68
5	**Use of psychoactive substances**		
	a) Yes	49	41
	b) No	71	59

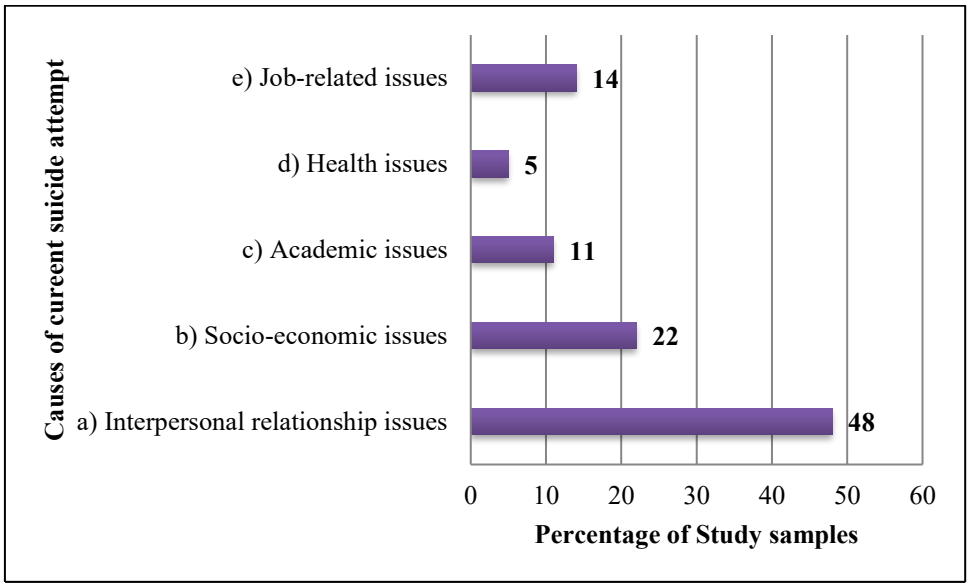

Fig. 1. Causes of current suicide attempt – Percentage wise.

c) Mean level of psychological markers

Table 3: Mean level of psychological variables in suicide attempters

Variables	Max. score	Mean	SD	Mean percentage
Level of defeat	64	35.3	4.5	55
Level of entrapment	64	45.5	3.43	71
Level of hopelessness	20	13.6	1.62	68

As shown in Table 3, with a mean percentage of 71, participants reported a higher level of perceived entrapment. The lower SD (3.43) indicates those participants' responses were fairly consistent, showing a common experience of feeling trapped or unable to escape their circumstances.

The mean percentage of 68 suggests a high level of hopelessness among respondents. The small SD (1.62) reflects low variability, indicating that most participants shared similar feelings of hopelessness.

The mean percentage of 55 indicates a quite high level of perceived defeat among participants. The standard deviation (SD = 4.5) suggests a moderate variation in responses, meaning most individuals experienced similar but not identical feelings of defeat.

d) Correlation between psychological markers

The correlation analysis was conducted using Karl Pearson corelation coefficient method to examine the relationship among the three psychological markers: the level of defeat, level of entrapment, and level of hopelessness. The table 4 depicts the 'r' values.

Table 4: Correlational findings between psychological markers

Variables	Level of Defeat	Level of Entrapment	Level of Hopelessness
Level of Defeat	--	0.70**	0.63**
Level of Entrapment	0.75**	--	0.79**
Level of Hopelessness	0.67**	0.76**	--

Note: ** Statistically significant relationships at $p < 0.01$ (two-tailed).

The table 4 shows significant positive correlations among all three variables. The findings revealed that: there was a strong positive correlation between defeat and entrapment ($r = 0.70$, $p < 0.01$), indicating that individuals experiencing higher levels of defeat also tend to feel more entrapped. A moderate to strong positive correlation was found between defeat and hopelessness ($r = 0.63$, $p < 0.01$), suggesting that a sense of defeat is closely linked with feelings of hopelessness. Similarly, entrapment and hopelessness showed a high positive correlation ($r = 0.79$, $p < 0.01$), reflecting that individuals who feel entrapped are also more likely to be hopeless. Hopelessness exhibits positive correlation with the level of defeat ($r = 0.67$) and level of entrapment ($r = 0.76$).

e) Association findings between background, clinical variable and psychological markers

The Chi-square test was conducted to determine the association between selected background and clinical variables with the study variable. At the 0.05 level of significance, the calculated Chi-square values for all variables were less than their respective table values, indicating that none of the variables showed a statistically significant association which clearly depicts that the psychological markers could drive any one in emotional pain.

V. DISCUSSION

The current study examined the level of psychological markers, specifically defeat, entrapment and hopelessness existing in suicide attempters who were on treatment at tertiary care hospital in Erode district, Tamilnadu, India. The findings provide valuable insights into the background profile of the participants and reflect certain socio-economic and lifestyle trends that may contribute to suicidal behaviour.

Age distribution in the study

Nearly half of the participants (49%) were in the age group of 20–30 years, followed by 38% in the 31–40 years group. This indicates that the majority of suicide attempters belonged to the young adult population. Previous studies have shown similar findings, suggesting that individuals in early adulthood face significant stressors such as academic, occupational, and relational challenges, making them more prone to suicidal ideation [1] & [9].

Gender distribution in the study

The high percentage of male participants in this study matches with existing evidence that males are more likely to engage in suicidal acts [10]. However, the presence of female and transgender participants underlines that suicide affects all genders and may be influenced by psychosocial stress, stigma, and lack of support [11].

Distribution by education

Almost half of the participants (49%) had studied up to the high school level, while only 18% were graduates and above. Studies have identified that lower educational attainment has been linked with limited employment opportunities and reduced coping skills, increasing vulnerability to suicide [12]. Education could enhance awareness and access to mental health resources, which can act as protective factors.

Employment status

A considerable proportion (47%) was self-employed, while 30% were private employees and 23% unemployed. Occupational instability and financial uncertainty can heighten stress and feelings of hopelessness, leading to suicidal behaviour [13]. Self-employed individuals often face irregular income and work-related pressure, which may contribute to mental distress.

Monthly family Income

A majority (61%) reported a monthly family income between ₹10,001–15,000, indicating low socioeconomic status. Economic adversity has long been associated with suicidal behaviour [1]. Financial stress may contribute to hopelessness and psychological distress, particularly in low-income populations.

Quantity of Sleep

Most participants (69%) reported less than six hours of sleep per night, suggesting a high level of sleep disturbance. Numerous studies have demonstrated a significant association between sleep problems and suicide risk, mediated through depression, anxiety, and impaired emotion regulation [15].

Domicile wise distribution

The majority (64%) of participants resided in rural areas, which is consistent with evidence that rural residents often face limited access to mental health services, social isolation, and stigma toward mental illness [1] & [16]. The combination of economic strain, lack of support, and barriers to care increases their vulnerability to suicide.

Distribution by means of suicide attempt

Most of the participants (61%) had attempted suicide by ingestion of poison, followed by drug overdose (29%), and hanging (10%). This finding indicates that poisoning remains the most common mode of suicide attempt, likely due to the easy availability of agricultural pesticides and household poisons in India. Several Indian and international studies have similarly reported self-poisoning as the predominant method [17] & [18]. The preference for poisoning, particularly in rural and semi-urban areas, highlights the need for restricting access to toxic substances and enforcing safe storage and sale regulations for pesticides as effective preventive strategies [1].

Causes of suicide attempt

The most frequently reported cause of suicide in this study was interpersonal relationship problems (48%), followed by socio-economic issues (22%), job-related stress (14%), academic issues (11%), and health-related problems (5%). These results demonstrate that psychosocial stressors play a central role in precipitating suicide attempts. Previous studies in Indian settings have similarly found family conflicts, marital discord, and relationship break-ups as the leading triggers [19]. The prominence of interpersonal difficulties suggests a need for early psychosocial interventions, family counselling, and emotional support networks to mitigate distress before it leads to self-harm.

Number of previous attempts

Though more than half of the participants (52%) had no previous attempts, a considerable number (39%) had attempted once and 9% had attempted twice or more. Repeated attempts are clinically significant predictors of future suicide completion, warranting close follow-up, psychological support, and relapse-prevention strategies for this subgroup [20].

Use of Psychoactive Substances

A significant proportion (41%) of participants reported using psychoactive substances, such as alcohol or drugs. Substance use is a well-established risk factor for suicide attempts, as it can lower inhibition, impair judgment, and exacerbate depressive or impulsive tendencies [21].

The mean percentage score of 55% for defeat suggests that participants experienced a considerable sense of failed struggle or loss of social rank, consistent with the conceptualization by Gilbert and Allan (1998), who described defeat as a perception of failed struggle and social subordination. This feeling of defeat may emerge out of interpersonal struggles, failure, or humiliation, which are known precursors to suicidal thoughts [22].

The high mean score of 71% for entrapment indicates that many individuals felt trapped physically, emotionally, or socially in adverse situations in which they sense escape is impossible. This finding aligns with the Entrapment Theory of Suicide proposed by Williams (2001), which posits that the interaction of perceived defeat and entrapment plays a central role in the onset of suicidal ideation. The elevated entrapment levels observed may reflect the participants' inability to find solutions or support systems to cope with distress. So, entrapment was found to be a strong predictor of suicidal behavior [23] & [24].

The mean percentage of 68% for hopelessness demonstrates a considerable level of pessimism about the future and one's capacity to overcome present difficulties. This aligns with Beck's cognitive theory of suicide (Beck et al., 1974), which emphasizes hopelessness as a proximal predictor of suicidal intent. High hopelessness scores have been consistently linked to suicidal ideation and behavior across diverse populations [25].

Higher levels of defeat are associated with higher entrapment and hopelessness, while entrapment also strongly correlates with hopelessness, indicating close interdependence among these psychological markers. Meta-analytic and empirical studies have repeatedly reported large associations between perceptions of defeat and entrapment, and between these constructs and hopelessness, across clinical and community samples — supporting their role as transdiagnostic markers of suicidal thinking [24]. Recent longitudinal and ecological studies further indicate that defeat and entrapment not only co-occur but can predict short-term increases in suicidal ideation, and that entrapment often mediates the relationship between defeat experiences and ideation. This body of work supports interpreting the present cross-sectional correlations as reflecting meaningful, potentially causal psychological pathways that warrant longitudinal confirmation [26].

On chi square test, at the 0.05 level of significance, none of the background and clinical variables showed a statistically significant association which clearly depicts that the psychological markers could drive any one in to emotional pain which later turn into suicide behaviour.

CONCLUSION:

Findings of this study reveal that suicide attempters generally experience moderate defeat, high entrapment, and moderately high hopelessness. It suggests that, even after making a suicide attempt, individuals perceive themselves as defeated and unable to escape their situations (entrapment), they are more likely to experience a sense of hopelessness which probably could drive them into subsequent suicide attempts. Appropriate and early interventions have to be framed and implemented for individuals who engaged in recent suicide attempt during their hospitalization.

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