

## Correlates of Process of Suicide Attempt and Perception of its Prevention

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**Objective:** Suicide attempt may follow a process right from the inception of the first information about suicide until the act itself. This study was conducted to determine the relationship between perception of suicide prevention with the process of suicide attempt and demographic variables following a suicidal attempt.

**Method:** In this hospital based cross-sectional study, 168 consecutive admitted participants with a suicide attempt were screened, and 109 who met the study criteria were recruited to participate in this study before discharge. They were assessed using the socio-demographic and clinical proforma designed for this study as well as by the Pierce Suicide Intent Scale. To assess the process of suicide attempt and perception of suicide prevention, a 17- item questionnaire was developed and used after rigorous literature search. The Cronbach's alpha coefficient value of this questionnaire found to be 0.84 in the reliability analysis.

**Results:** Media was the first source of information, and the majority had short duration of preoccupation and interval between making the decision and the actual attempt and the control of emotion during the attempt. A significant positive correlation was observed between the source of the first information and age ( $p < 0.01$ ), reason for the method used and economic status ( $p < 0.01$ ), duration since the first information and family history of suicide ( $p < 0.01$ ). Psychiatric diagnosis had a statistically significant association with the method used ( $p < 0.01$ ), duration of preoccupation ( $p < 0.01$ ), preparedness ( $p < 0.01$ ) and emotional state during the attempt ( $p < 0.01$ ). A statistically significant negative correlation was found between the source of the first information and education ( $p < 0.01$ ), any psychiatric diagnosis and duration since the first death wish ( $p < 0.01$ ). On the score of perception about suicide prevention, a significant group difference was observed for marital status, occupation, medical diagnosis, opinion about an attempt, duration since the decision to attempt, and emotional control during the attempt.

**Conclusion:** Based on the findings, it can be concluded that perception of suicide prevention may vary with the process of suicide attempts and demographic characteristics.

**Key words:** Correlation, Process of Suicide Attempt, Perception of Suicide Prevention

*Iran J Psychiatry 2016; 11:3: 178-184*

Lifetime prevalence of suicide varies from 0.72 to 5.93% (1). It takes a form of process (process of suicide attempt), from an inception of the first information about suicide to an actual attempt (2). It is a psychological process of self-destruction leading a person to death (3). There is dearth of studies examining the process of suicide attempt in the chronological perspective. Few studies that adopted non-chronological approach (which focused on duration of suicidal ideation and attempt) detected the following factors immediately after a suicide attempt: Younger age at first death wish; fleeting suicidal thought months before suicide; varied interval between communicating about suicide and actual act; perceived suicide as a solution for problems and

feeling emptiness and sadness (4,5 and 6). Reviews and management guidelines on suicide attempt have emphasized on interrupting the process of suicide by providing appropriate education and awareness, proper media reporting, screening and means restriction etc. (7). Understanding the relationship between the process of suicide attempt and perception of suicide prevention may have therapeutic and preventive implication. This study was conducted to determine the relationship between perception of suicide prevention and the process of suicide attempt and demographic variables following a suicidal attempt. We hypothesized that perception of suicide prevention varies with the process of suicide attempt and demographic characteristics.

## Materials and Method

This cross-sectional, hospital-based study was conducted at JSS Hospital Mysore- Karnataka (India) after receiving the approval of institutional Ethical Committee. The study centre is a non-profit organization catering affordable service to all socioeconomic classes and covers more than about 10 lakhs population. All patients admitted for a suicide attempt from September 2009 to June 2010 in Intensive Care Unit were screened and recruited after recovery with treatment before discharge. Out of 168 patients screened, 109 met the selection criteria, and were included in the study, and informed consent was obtained. Inclusion criteria were patients of both genders, aged 16-65 years, history of severe suicide attempt (suicidal attempt requiring significant medical treatment or causing severe injury that may lead to a death or being associated with permanent medical sequel) and  $\leq 15$  days since the suicide attempt (for better recall accuracy). Due to the reliability issues, participants were excluded if they had an ICD 10 diagnosis of dementia or mental retardation, presence of psychotic symptoms or any condition associated with significant impaired cognitive function during the attempt or if they were unable to provide reliable information about their suicidal behavior. Participants were excluded if they were on treatment for any psychiatric disorder, suffered from any severe physical illness, or terminal physical illness as they may directly influence the perception of suicide prevention. The study did not interfere with the ongoing treatment by the physicians. All included patients were assessed with socio-demographic and clinical Proforma designed for this study, Questionnaire of Process of Suicide Attempt and Pierce Suicide Intent Scale (PSIS) (8). To assess the process of suicide attempt and perception of suicide prevention, a 20- item questionnaire was developed after rigorous literature search. Spearman correlation test was applied to evaluate the validity of the score on Pierce Suicide Intent Scale. The underlying hypothesis was as follows: The score on the process of suicide attempt questionnaire will correlate with the score on Pierce Suicide Intent Scale. A pilot study was conducted on 20 participants. Three items did not have a statistically significant correlation, so they were removed; and 17 items were used in this study. Each item had three possible responses. The questionnaire assessed the initial reception of information about suicide (Items 1, 2), activation of suicidal thoughts/ideas (Items 3-5), intense suicidal state (Items 6-16) and post attempt state (Item 17). Reliability analysis revealed a Cronbach's alpha coefficient value of 0.84. A qualified psychiatrist performed all the assessments. After the assessment, a brief psychological intervention (Life Skill Training) was conducted with a focus on problem solving, effective communication, interpersonal relationship, and coping with stress and emotion. An appropriate psychopharmacotherapy was

started depending on the psychiatric diagnosis after evaluation.

Statistical analysis was done using SPSS 16. Descriptive data were expressed with frequency, percentages; and statistical significance, fixed at .05 and .01 level, was denoted with p values.

Bivariate correlations procedure (Pearson's correlation coefficient) was used to measure the linear association between the variables. Because each item in the questionnaire of the process of suicide attempt measures different dimensions, their correlation with demographic variables were assessed. Similar correlation was assessed for the total score on PSIS and variables of process of suicide attempt. As the dependent variable was categorical, ANOVA test was carried out to determine the group difference in the perception of suicide prevention vs. variables of socio-demography and questionnaire for the process of suicide attempt.

## Results

The process of suicide attempts were characterized as follows: More participants with a long duration since the first information about suicide, media as the first source of information, short duration of interval from decision to attempt, preoccupation, and not being prepared for an attempt. During the attempt, they felt some satisfaction for the act, and were little sad but were in control of their emotion (Table 1).

Table 2 reveals the correlation of process of suicide attempt with demographic and clinical variables. A positive correlation was observed between age and source of the first information ( $<0.01$ ), economic status and reason for the method used ( $<0.01$ ), family history of suicide and duration of the first information ( $<0.01$ ). A negative correlation was observed between education and source of the first information ( $<0.01$ ), any psychiatric diagnosis and duration since the first death wish ( $<0.01$ ). Any psychiatric diagnosis was positively correlated with the duration of decision to attempt ( $<0.01$ ), duration of preoccupation ( $<0.01$ ), preparedness ( $<0.01$ ) and emotional state during the attempt ( $<0.01$ ). No statistically significant correlation was observed for the score on the Process of Suicide Attempt Questionnaire and demographic variables. PSIS score had a positive correlation with most variables of the suicide process.

Table 3 displays only the statistically significant group difference on the score of suicide prevention and variables of demographic characteristics and process of suicide attempt. On the scores of perception about suicide prevention, a significant group difference was observed for occupation, medical diagnosis, prevention of others from suicide and opinion about an attempt.

Table1. Characteristics of the Process of Suicidal Attempt

Variables		N	%
Duration since first information about suicide	Months -years back	104	95.4
	Weeks back	1	0.9
	Few days back	4	3.7
Source of first information	Through media	77	70.6
	Through society	27	24.8
	Through family member, near or dear	5	4.6
Duration since first death wish	Months -years back	35	32.1
	Weeks back	19	17.4
	This was the first time	55	50.5
Duration of decision to attempt	Within minutes - hours	68	62.4
	Within 24 hour	11	10.1
	Within a week- months	30	27.5
Duration of preoccupation	Minutes – hours in a day	79	72.5
	More than hours but within 24 hour in a day	22	20.2
	More than a day but within a week- months	8	7.3
Preparedness	No I didn't have	43	39.4
	Chosen from what was available there	52	47.7
	Yes I have	14	12.8
Reason for method used	Because it was available at that time	46	42.2
	I thought this method may helpful	41	37.6
	I was sure that this method is suitable for me	22	20.2
Anticipated consequences	I proved to be failed in life, Worse for near and dear	51	46.8
	Might have affected in some way	35	32.1
	Nothing	23	21.1
Responsibility for the attempt	Provoked from outside	28	25.7
	Both me and external factor	43	39.4
	I am fully responsible	38	34.9
Satisfaction regarding act before attempt	Not at all	49	45.0
	To some extent	52	47.7
	Yes I was	8	7.3
Resistance	With much difficulty but finally decided	15	13.8
	Hesitating but finally decided	43	39.4
	No I didn't	51	46.8
Psycho-physiological state	Very tensed up	28	25.7
	Little tensed up mostly relaxed	57	52.3
	Yes I was relaxed	24	22.0
Emotional state during attempt	Angry, blank	47	43.1
	Sadness	59	54.1
	Happiness	3	2.8
Emotional control during attempt	I was under control of emotion and thought	53	48.6
	Some control over emotion and thought	44	40.4
	Emotion and thought were under my control	12	11.0
Any distraction during attempt	Thinking many things but concentrate to do it	19	17.4
	Some thought about other thing	42	38.5
	No, I did not.	48	44.0
Concern for anything during attempt	About near / dear/other thing	22	20.2
	About some incomplete work /people	36	33.0
	Didn't feel so	51	46.8
Opinion about an attempt	Try to overcome through different way.	59	54.1
	Be calm and think before any decision Should not do	48	44.0
	Should go for it once decided	2	1.8

Table2. Correlation of Process of Suicidal Attempt

Demographic and Clinical Correlates of Process of Suicide	
Age	Source of first information (0.282**), Emotional state during attempt (198 <sup>†</sup> )
Gender	Any distraction during attempt (-0.190 <sup>†</sup> )
Marital status	Duration of preoccupation (0.235 <sup>†</sup> )
SES	Source of first information (-0.212 <sup>†</sup> ), Reason for method used ( 0.268**)
Education	Source of first information (-0.311**)
Method	Source of first information (0.216 <sup>†</sup> )
Any psychiatric diagnosis	Duration since first death wish (-0.297**), Duration of decision to attempt (0.287**), Duration of preoccupation (0.307**), Preparedness (0.316**), Reason for method used (0.199 <sup>†</sup> ), Emotional state during attempt (0.324**)
Family history of suicide	Duration of first information (0.261**), Preparedness (0.220 <sup>†</sup> ).
PSIS score	Duration since first death wish (-0.508**), Duration of decision to attempt (0.566**), Duration of preoccupation(0.300 <sup>†</sup> ),Preparedness ( 0.570**),Reason for method used ( 0.548**), Emotional state during attempt (0.382**), Psycho-physiological state ( 0.372**), Anticipated consequences ( 0.480**)

\* P Value significant at the level of 0.05  
 \*\* P Value significant at the level of 0.01

Table3. Scores of Demographic and Process of Suicide Attempt for the Perception of Suicide Prevention

	Sum of Squares	df	Mean Square	F	Sig.
Marital status	0.718	1	0.718	5.633	0.019
Occupation	0.718	1	0.718	5.633	0.019
Medical diagnosis	1.033	1	1.033	8.303	0.005
Prevention of others suicide	7.844	1	7.844	129.017	0.000
Duration since decision to attempt	0.990	2	0.495	3.927	0.023
Emotional control during attempt	1.528	2	0.764	6.316	0.003
Opinion about an attempt	2.673	2	1.336	12.132	0.000

\* P Value significant at the level of 0.05  
 \*\* P Value significant at the level of 0.0

**Discussion**

This study was aimed to find the relationship between perception of suicide prevention and process of suicide attempt. As the treatment of psychiatric disorder, presence of psychotic symptoms and severe physical illness or terminal illness may influence the process of suicide attempt, such topics were excluded from this study. History of impairment in cognitive function and ICD 10 diagnosis of dementia or mental retardation were excluded due to issues related to reliability.

**Process of Suicide Attempt**

Most participants received the first information about suicide years back through the media. This may be because mass media is easily accessible and available to the general population. In general, people are more dependent on media than their own network for social information due to the changing lifestyle (9). Media

can influence the emotions, behavior and psychological responses of the recipient and can change the recipients' view of the world by priming, agenda-setting, framing, cultivation and disinhibitory effect (10). Social issues leading to suicide or suicide attempt have often been glorified or justified by Indian media, encouraging the vulnerable people to identify themselves with the deceased (11).

In this study, the majority of suicide attempts were impulsive, and characterized by the short duration of decision to attempt and preoccupation, unpreparedness, sadness during the attempt, and being in control of the emotions. Impulsivity is common in Asian population and is associated with impulsive suicide or suicide attempt (12). As the majority had experienced sadness before an attempt, they were predisposed to

impulsive behavior. Emotional exacerbation and emotional dysregulation are common before an attempt that may interfere with rational decision-making and increase the focus on the immediate interest (13).

We observed that the majority of the participants were unsatisfied with the act of attempt, little sad and tried to resist the attempt. This indicates an ambiguous state of mind during an attempt. Impulsive decisions are guided by intuition, but rationality and morality may remain operative at the sub-threshold level, creating a conflict during decision-making (14).

#### Correlation of Suicide Process and Demographic Variables

Females had more distractions during the attempt in this study. Gender differences exist in taking responsibility and decision-making (15). It is often shaped by socio-cultural factors such as norms, family, social status, beliefs and experiences (16). Women are more likely to give value to familial and social responsibility before their personal preferences in life, and this has reflected as distraction during an attempt.

Because of easy access to media, younger and single participants appeared to access suicide information from the media in this study. Middle and Low economic status is a risk factor for impulsive suicide attempt, and the participants tended to use whatever method available at the time of the attempt (17). Correlation of marital status and preoccupation revealed a difference in the determinants of emotional processing such as support system and coping and social learning (18).

#### Correlation of Suicide Process and Clinical Variables

A positive correlation was found between the method used and the first source of information about suicide. Poisoning has been the common method of suicide in India and usually well covered in Indian media; this observation was likely as the media was the first source for the majority of the participants. Psychiatric diagnosis had a significant correlation with many variables of suicide process. This explains underlying mechanism such as the stress diathesis of suicidality (19). Abnormality in serotonin functions and noradrenergic neurotransmitter has been reported in suicide victims (20). Suicide and mental illness often co-occur (17). Most psychiatric disorders have dysfunction of these neurotransmitters and are concerned with impulsivity, emotional disturbances and error in decision-making. This may explain our observation of a negative correlation with duration since the first death wish and a positive correlation with duration of decision to attempt, duration of preoccupation, preparedness and reason for the method used and emotional state during attempt. Longer duration since the first information and more preparedness for an attempt in those with a family history of suicide was due to acquired knowledge of completed suicide by a family member (21). Consistent with previous reports, our analysis revealed a negative correlation of PSIS score with duration since the first death wish: the higher the score in PSIS the

longer the duration. This may indicate persisting thoughts of suicide even after an attempt suggestive of underlying a morbid psychological state.

Severity of suicide intention appeared to be associated with a pattern of suicide process. When the intention is stronger, the decision to attempt tends to be faster. The reason for suicide attempt could be impulsivity or cognitive distortion such as dichotomous thinking, cognitive rigidity, faulty logic or judgments that maintained suicidal preoccupation (22). Emotion has an important role in the development of such cognition. According to Baumeister's paradoxical assumption, self-destructive behaviour is to protect oneself from emotional distress (23). A state of negative urgency may result in an action without preparation or anticipated consequences (24). In general, the positive correlation of many variables of suicide process with the score on Pierce Suicide Intent Scale may validate other observations in this study.

#### The Relationship between the Process of Suicide Attempt and Perception of Suicide Prevention

As reported in previous studies, marital status has an effect on the prevalence and perception of suicide prevention. In Asian countries, arranged marriage is most prevalent, in which decisions are made by the family members. Forced or unwanted marriage, social obligation, the strong association of family reputation with continuation of marriage, stigma and social disapproval of divorce, reduced level of conflict tolerance and impulsivity leading to an adjustment difficulty or family problem that lead to suicide is common in India (25, 26).

Group difference on the score of perception about suicide prevention for employment status indicates the proximity of occupation related precipitating or perpetuating factors. In this study, the majority were students or homemakers. Increased incidence of suicide or suicide attempt among students has been reported due to inability to meet the high expectations, love failure and financial problems (27). Homemakers are more likely to face psychological abuse, domestic violence, poor support from husbands and culture related psychosocial disadvantages.

Suicidal attempt associated with any medical illness depends on distress, associated disability and expected outcome (28). In our study, severe pain symptom was commonly associated with medical condition. Patients with pain often develop distress, hopelessness and helplessness that may mediate suicidal behaviour.

Similar to another report, we observed that a shorter duration of decision to attempt was associated with elevated perception that suicide can be prevented (29). This may indicate that the decision was impulsive, without giving any alternative or adequate thought. Baumeister (1990) proposed that on the experience of aversive self-awareness, a person may develop a state of cognitive deconstruction (constricted, present focused time perspective and cognitive rigidity) that

leads to disinhibition resulting in non-resistance to impulsive suicide attempt (30).

The level of emotional regulation may mediate a suicidal attempt in a predisposed person. Emotional distress may overpower the ability to make rational decisions based on external stimulus (negative urgency), resulting in maladaptive behavior among the attempters (31). Intense emotions also result in a mood congruent memory biases, thinking patterns and evaluation of life that can influence behavior (32). After an attempt, the majority have opined against a suicide attempt. This further supports the role of emotion and mood during an attempt. This may reflect the different mental state after an attempt that may have influenced the opinion about prevention of suicide as reported in the community study (33).

### Limitations

One limitation of this study was its small sample size; thus, the relationships among variables should be interpreted with caution. As the study was conducted at a tertiary centre, results are applicable to those availing in such centres. Distinct psychological state at the time of data collection may not necessarily be the same as the time of attempt. Therefore, it may not represent the perception of prevention at the time of the attempt. Understanding the relationship between the process of suicide attempt and perception of prevention may help to individualise the treatment and develop preventive strategies.

### Conclusion

Our hypothesis was partially true. The perception of suicide prevention varies with some variables of process of suicide attempt (duration since the decision to attempt and emotional control during the attempt) and demographic characteristics (marital status, occupation).

### Acknowledgements

Authors would like to thank Yahosa, Shamaya, Hagai, Asther, Yasuas, Marias, Ashish, Akash and Mini and St. Antony for their moral help.

### Conflict of interest

Nil

### Financial support

Nil.

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