

# Relationship between Psychosocial Stressors and the Intent and Lethality of Suicidal Behavior

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## Abstract

**Background:** The increasing rate of suicide and suicidal attempts is a growing health problem worldwide. The majority of suicide attempts occur in the low and middle economic countries like India. Suicidal behavior occurs in response to interactions between biological, psychological, and socioenvironmental risk factors.

**Aim:** To determine the level of association between psychosocial stressors and intent and lethality of suicidal behavior.

**Materials and Methods:** Consecutive suicide attempters above the age of 15 years admitted to Kilpauk Medical College Hospital were assessed. 106 patients were selected, and they were administered a semi-structured socio-demographic pro forma, presumptive stressful life events scale, Beck's suicide intent scale, and Lethality assessment scale.

**Results:** Majority of the suicide attempters were female. The majority was married from a lower economic status and had some education. Individuals with higher psychosocial stressors had significantly higher suicidal intention and lethality of the suicide scores.

**Conclusion:** Psychosocial stressors are significantly correlated with the intention and lethality of the suicide. Female gender and marital conflicts had a major role as compared to other factors such as family conflicts, financial, and occupational problems in suicidal behavior. Early identification and intervention are needed to prevent the further suicide attempt.

**Key words:** Beck suicide intent scale, Lethality assessment scale, Presumptive stressful life events scale

## INTRODUCTION

The increasing rate of suicide and suicidal attempts is a growing health problem worldwide. According to World Health Organization (WHO), suicide is the second leading cause of death between 15 and 29 years of age globally (2012). It is responsible for 1.4% of all deaths worldwide. According to WHO report, one person commits suicide every 40 s globally. The majority of suicide attempts occur in the low and middle economic countries. Worldwide, most suicides occur in the South-East Asia region. In

2012, India accounted for the most deaths by suicide in this region.<sup>1</sup>

More than one lakh lives are lost every year due to reported (many being unreported) suicide in India. From 1975 to 2005, the suicide rate has increased by 43% (Government of India, 2005). The rates were approximately the same between 1975 and 1985; from 1985 to 1995 there was an increase of 35% and from 1995 to 2005, the increase was 5%.<sup>2</sup>

Suicidal behavior refers to directly self-injurious behavior that is engaged in with the intent to end one's life such as hanging/strangulation, severe cutting, and jumping from heights (Andover and Gibb, 2010).<sup>3</sup> Suicidal behavior occurs in response to interactions between biological, psychological, and socio-environmental risk factors. Empirical research suggests that early and chronic life event stresses, particularly within the family context, are associated with suicidal behavior.

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The incidence of suicidal behavior is increased in young females and in lower socioeconomic status. Other risk factors include suicide attempts by family members or friends, chronic physical illness, family violence, and lower academic achievement (Lewinsohn *et al.*, 1994).<sup>4</sup> Other potential risk factors for suicide attempts include psychopathology especially a major depressive disorder, previous suicide attempts, hopelessness, and recent stressful life events.

Stressful life events are associated with a high proportion of suicide attempts. Life changes could act as a stressor causing physiological arousal and enhanced susceptibility for suicidal risk. Suicide victims have experienced more changes in living conditions, work problems, and object losses than normal controls. Chronic physical illness also had a tendency to increase the suicidal behavior. Stressful life events and social problems happening in recent time may lead to suicide. A review of Indian studies on stressors in suicide has shown maladjustment with family members and domestic strife as the most important cause, followed by physical factors and mental illness (Ponnudurai *et al.*, 1986).<sup>5</sup> Sometimes individuals with life event stressors attempt suicide immediately, often within a day of a stressor (Conner and Duberstein, 2004).<sup>6</sup>

Several recent studies have suggested that mental disorders are less important in the occurrence of suicidal behaviors in developing countries compared to developed countries. Studies in developed countries suggest that more than 90% of the suicide attempters had diagnosable mental disorder, but rates in developing countries were lower (Vijaykumar, 2007).<sup>7</sup>

The increase of suicide rates is much higher in adolescents than adults. The primary causes were identified as disturbed interpersonal relationships and psychiatric illness (Cohen *et al.*, 1982).<sup>8</sup> Adolescents with the greatest risk of suicidal behavior had family and marital problems, poor parent child attachment, and sexual abuse in childhood (Fergusson *et al.*, 2000).<sup>9</sup>

### Aim

To determine the significance of the severity of psychosocial stressors in relation to intent and lethality of suicidal behavior.

## MATERIALS AND METHODS

The prospective observational study was conducted Department of Psychiatry, Kilpauk Medical College Hospital in patients referred after a suicidal attempt for psychiatric assessment and counseling. Patients who

were older than 15 years of age and who were willing to participate in the study by giving an informed consent (for minors, informed consent was obtained from a parent as well as subject) were included. The study was approved by the institutional ethics board. 115 suicide attempters above the age of 15 years reported to the psychiatry department during the above mentioned period. Among those, 4 patients were found to be very ill and 5 were not willing to participate, which resulted in 106 individuals being taken up for the study. A semi-structured pro forma was used to record sociodemographic and other relevant information. Life events and psychosocial stressors during the past year were assessed using presumptive stressful life events scale (PSLES). Suicidal intention and its lethality were assessed using Beck's suicidal intent scale and Lethality assessment scale, respectively. The presence of psychiatric disorders and substance use disorders were also diagnosed by clinical interview, according to ICD 10 but were not analyzed for this study. PSLES consists of 51 questions each having a separate score and is divided into 3 categories as low, medium and high depending on the total scores as <150, 150-300 and >300, respectively. Beck's suicidal intent scale was developed by Aaron Beck and his colleagues at the University of Pennsylvania to determine the severity after an unsuccessful suicide attempt. The range of scores is 0-21, divided into low intent 0-3, medium intent 4-10, and high intent 11 and above. Lethality assessment scale consists of 5 key ranges which apart from determining the lethality of the suicide attempt, also focuses on further imminent risk. In this study, the severity of the psychosocial stressors was analyzed in relation to the intent and lethality of the suicide attempt. Statistical analysis was performed using SPSS vision 20.0. Unpaired *t*-test, analysis of variance and Spearman's rank order correlation coefficient test were used.

## RESULTS

In this study, 106 participants were analyzed and matched on age, sex, education, occupation, and marital status. Among those, 47.16% ( $n = 50$ ) participants were males, 52.83% ( $n = 56$ ) were females, 48.1% were single, and 51.9% were married. 64.15% had completed school level education like middle school, high school and higher secondary level and 24.52% ( $n = 26$ ) had completed either a diploma or a degree. In income status, 66.98% had a monthly income of less than 10000, while 29.24% of them had a range of income from 10,000 to 25,000 per month, and only 3.77% of them had monthly income of above 25,000. Regarding occupational status, 13.20% ( $n = 14$ ) of participants were students including school and colleges, 11.32% ( $n = 12$ ) were housewives, 58.49% ( $n = 62$ ) were employed, and 16.98% ( $n = 18$ ) of them were unemployed (Table 1).

Table 2 shows that a significant association is observed between marital status and psychosocial stressors. The other indicators - such as occupation, education, and income status - were not significantly associated with any of the measured variables.

Table 3 shows that individuals with high psychosocial stressors had higher suicidal intention scores ( $P = 0.028$ ) as well as the high scores on lethality of the suicide ( $P = 0.020$ ). Individuals with high suicidal had higher lethality of the suicide ( $P = 0.000$ ).

## DISCUSSION

According to Ramdurg et al.(2012),<sup>10</sup> 63% of the suicide attempts were by individuals with an educational level below matriculation and individuals with employment

had a higher suicidal rate than the unemployed persons and also the level of stressors were more in employed persons. Tara et al. (2014),<sup>11</sup> in her study, found that 55% of the suicide attempts were by individuals with unskilled work. According to Sudhir Kumar et al.<sup>12</sup> 58.1% of the participants came under lower socioeconomic status in their study. The results of our study are in broad agreement with this data with most attempters having some education and belonging to lower economic status.

Our findings suggest that psychosocial stressors had a major role in suicide attempts, and there was a direct relation between psychosocial stressors and suicidal intention/lethality. The score of the presumptive stressful life events was divided into low (<150), medium (150-300), and high (>300). Among those, suicide attempters in this study 72% ( $n = 77$ ), 22% ( $n = 24$ ), 4.7% ( $n = 5$ ) of suicidal attempters were scores as low, medium, and high, respectively.

In our study, significant psychosocial stressors were present in married persons ( $P = 0.027$ ), however, there was no significant relation between psychosocial stress score and other factors such as employment status, income status, or educational status. Osvath et al. (2004)<sup>13</sup> have reported that the recent life events commonly noted in most suicide attempts were problems at work and family, somatic illness, and financial problem. Other studies have also reported that psychosocial stressors such as financial loss, family conflict, marital conflict, and broken engagement had a key role in suicidal behavior (Kumar and George (2013)).<sup>14</sup>

It is usually held that unmarried persons have a higher percentage of suicide (Ponnudurai et al., 1986 and 1995; Latha et al., 1996; Shivakumar and Shanmugasundaram,

**Table 1: Sociodemographic data**

Demographic details	Variables	Numbers (%)
Gender	Male	50 (47.16)
	Female	56 (52.83)
Marital status	Single	51 (48.1)
	Married	55 (51.9)
Education	Illiterate	12 (11.32)
	School education	68 (64.15)
	Degree/diploma	26 (24.52)
Income per month	<10000	71 (66.98)
	10000-25000	31 (29.24)
	>25000	4 (3.77)
Occupation	Students	14 (13.2)
	Home makers	12 (11.32)
	Employed	62 (58.49)
	Unemployed	18 (16.98)

**Table 2: Association between socio-demographic variables and PSLES, Beck's suicide intent scale and LAS scores**

Variables	PSLES	BECK'S	LAS
Gender	0.171	0.239	0.089
Marital status	0.027	0.603	0.116
Occupation	0.642	0.373	0.403
Education	0.547	0.712	0.134
Income	0.102	0.740	0.343

PSLES: Presumptive stressful life events scale, LAS: Lethality assessment scale

**Table 3: Correlation between PSLE, Beck's and LAS**

Variables	PSLES	
	Correlation coefficient	P
Beck's SIS	0.213	0.028
LAS	0.225	0.021

PSLES: Presumptive stressful life events scale, LAS: Lethality assessment scale



**Figure 1: Relation between presumptive stressful life events scale and marital status**

2003).<sup>5,15,16</sup> The results of our study differed from the previous studies in this aspect. Fleischmann *et al.* (2005) have also reported that most of the suicide attempters were married than single in India (Figure 1).<sup>17</sup>

Our study shows that there was a correlation between psychosocial stressors and suicidal ideation similar to previous studies. Our study shows that individuals with high intent score had a high risk as well as high lethality. Hence, assessment of the suicidal intent should form a part of all suicide evaluation prevent the risk of further suicidal ideation or attempt (Vijayakumar, 2011).<sup>18</sup> The risk of suicide among self-harm patients is highest within the first year following the episode of self-harm. In our study also recurrent suicide attempters had reattempted suicide within 1 year of the previous attempt. Harris *et al.* (2005)<sup>19</sup> and Horrocks *et al.*, (2003)<sup>20</sup> have also shown that individuals with the high intent of suicide were more likely to die within 12 months of their index episode than those with low intent scores.

Our study shows that suicidal intent correlated significantly with lethality of the attempt. Compared to first-time attempters, patients with multiple attempts tended to show higher lethality. Similarly, planned suicide had a high lethality than impulsive attempts, though other studies have reported that impulsive attempts were associated with higher lethality compared to planned attempts (Kar *et al.* (2014).<sup>21</sup>

Suicide attempts in psychiatric disorder, personality disorder and substance use disorders were not analyzed in this study. Being a cross-sectional study further follow-up could not be done.

## CONCLUSION

Gender and interpersonal conflict have a major role in expression of suicidal behavior. Unlike in the developed countries, marital and other social stressors are frequently implicated in suicidal attempts as compared to existing psychiatric illness. The correlation between suicidal intent scores and stress scores suggest that the influence is direct. Suicidal intent evaluation should be included as a prominent part of suicide evaluation as it is associated with lethality and risk of further attempts.

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