

Case Study

Study of Life Stressors and Suicidal Intent of Suicidal Attempters with or Without Axis 1 Psychiatric Comorbidities: A Case Control Study

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ABSTRACT

Background: Suicide attempts and Psychiatric illness are interrelated in a complex and bi directional way such that either of them leaves an impact on the other. People with Psychiatric morbidity are at high risk of attempting suicide. Even though extensive research works have been done in suicide, there is a paucity of studies focusing the mentally ill attempters, especially with reference to Intent and Lethality. Hence the present study designed to study the various parameters, contributing factors and Risk factors associated with suicide attempts of patient with Axis I disorders. **Aim:** 1. To assess the life stressors and suicidal intent in suicide attempters with Axis I psychiatric disorders. 2. To assess the life stressors and suicidal intent in suicide attempters without Axis I psychiatric disorders. 3. Compare the life stressors and suicidal intent in suicide attempters with and without axis I disorders. **Material and Methods:** The study subjects of this case control study were recruited from the patients referred to the department of Psychiatry from Medicine, Surgical and Intensive care wards for Psychiatric evaluation. 30 patients of attempted suicide who had Axis I diagnosis as per the ICD – 10 criteria were taken as cases and 30 age and sex matched patients were taken as controls. **Results:** 1. The suicidal intent is high in Suicide attempters with Axis I Disorders. 2. The lethality is high in Suicidal attempters with Axis I Disorders. 3. Stress factors play a major role in Suicide attempters with Axis I disorders.

Keywords: Suicidal attempt, suicide, Para suicide, suicidal intent, psychiatric morbidities, stressful life events.

Lifetime suicide attempt rate was 2.9% in the five-site National Institute of Mental Health Epidemiologic Catchment Area (ECA) Study. Suicide is a major social and public health issue in India. There is a consistent increase in suicidal deaths in India; from 1975 to 2005 the

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suicide rate increased by 43%. Now we can here lot of voices across the country and even across the world to decriminalize the suicidal attempt that probably might be reflected in new mental health care bill which is soon going to be passed in our country. So many reasons have been pointed out for this step. But as a psychiatrist the important reason for decriminalize the suicidal attempt is to re-conceptualize suicidal attempt from individual weakness into disease pattern.

By considering suicidal attempt as a disease pattern we can effectively formulate preventive strategies to prevent the number of suicidal attempts and thereby and number suicidal death. As we are all aware that 78% of global suicide occurred in low- and middle-income countries in 2015 and it was estimated to represent 1.8% of the total global burden of disease in 1998; in 2020, this figure is projected to be 2.4% in countries with market and former socialist economies.

According to the World Health Organization that globally suicide is the second leading cause of death in 15-29 years olds and people who attempted suicide having the higher risk committing suicide in later years.

Ettlingers (1964) in his review reports, 1-2% of those who attempt suicide eventually complete suicide annually. For every single successful suicidal attempt 5-10 persons attempt but do not succeed. Mental disorders (particularly depression and substance abuse) are associated with more than 90% of all cases of suicide; however, suicide results from many complex sociocultural factors and is more likely to occur particularly during periods of socioeconomic, family and individual crisis situations (e.g. loss of a loved one, employment, honor).

WHO in its report on suicidal prevention states that “For every suicide there are many more people who attempt suicide every year.

Significantly, a prior suicide attempt is the single most important risk factor for suicide in the general population. For both suicides and suicide attempts, improved availability and quality of data from vital registration, hospital-based systems and surveys are required for effective suicide prevention”.

Mental disorders (particularly depression and substance abuse) are associated with more than 90% of all cases of suicide; however, suicide results from many complex sociocultural factors and is more likely to occur particularly during periods of socioeconomic, family and individual crisis situations (e.g. loss of a loved one, employment, honor).

Though there were observations about suicide and suicidal behavior in ancient times, the studies on attempted suicide and suicide have gained impetus in the recent past. Such studies

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have lent credence to the theory that the suicidal state appears to a large extent, a potentially recognizable and preventable one.

By considering this, we need to evaluate and assess all the persons who attempted suicide for their psychosocial factors and the life stressors. Since presence of any major mental disorders is the single most independent risk factor for suicide it is necessary to do detailed psychiatric assessment to rule out any major mental disorders in these individuals. By delivering prompt treatment at early stages of illness we can prevent these type lethal complications later.

Due to expansion of the problem of attempted suicide, major research effort has been directed towards investigation on the characteristics of people who attempt suicide and is given a high priority in suicide prevention. At risk population for suicide and attempted suicide is a group, which has to be identified and intervened to prevent death from this eminently preventable cause.

Aim

1. To assess the life stressors and suicidal intent in suicide attempters with Axis I psychiatric disorders
2. To assess the life stressors and suicidal intent in suicide attempters with out Axis I psychiatric disorders
3. Compare the life stressors and suicidal intent in suicide attempters with and without axis I disorders.

Materials and Methods

1. Site of study: Psychiatry OPD-suicide prevention clinic, SRM Medical College & Research Centre
2. Period of study: April 2015 to September 2016
3. Type of study: Case Control study
4. Cases – 30 consecutive patients admitted for attempted suicide fulfilling the inclusion criteria for cases
5. Controls– 30 patients admitted for attempted suicide fulfilling the inclusion criteria for controls.

Inclusion criteria

Cases

1. Age > 18 years.
2. Patients who attempted suicide and fulfilling the ICD 10 criteria for Axis I diagnosis.

Controls

1. Patients who attempted suicide, without Axis I disorders individually matched for each case in respective age (+ or – 2 yrs) and sex.

Exclusion criteria

1. Seriously ill patients among attempters.
2. Un Co-operative patients.

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Tools used

1. Proforma to elicit socio demographic data
2. Mini international neuropsychiatric interview plus (mini plus)
3. Beck's suicidal intent scale
4. Presumptive stressful life events scale (singh et al)

Proforma for Socio Demographic Variables

Information regarding name, age sex, marital status, education, occupation, family system, income and type of Domicile were obtained using the proforma.

Mini International neuropsychiatric Interview Plus (Mini Plus)

The M.I.N.I. was designed as a brief structured interview for the major Axis I psychiatric disorders in DSM-IV and ICD-10. Validation and reliability studies have been done comparing the M.I.N.I. to the SCID-P for DSM-III-R and the CIDI (a structured interview developed by the World Health Organization for lay interviewers for ICD-10). The results of these studies show that the M.I.N.I. has acceptably high validation and reliability scores, but can be administered in a much shorter period of time (mean 18.7 ± 11.6 minutes, median 15 minutes) than the above referenced instruments. It can be used by clinicians, after a brief training session. The M.I.N.I. Plus is a more detailed edition of the M.I.N.I. Symptoms better accounted for by an organic cause or by the use of alcohol or drugs.

Beck's Suicidal Intent Scale

The suicide intent scale was developed by Aaron T. Beck and his colleagues for use with patients who attempt suicide but survive. Purpose of this scale is to assess the severity of the suicide attempt. This scale has 15 items questionnaire. At the end of assessment we have to calculate total score. Total score lie between 15-19 is low intent, 20-28 is medium intent and 29 + is high intent.

Presumptive Stressful Life Events Scale

The above scale was developed by Gurmeet Singh et al. in the year 1984. This scale has 51 items and each item has a mean stress score. A cumulative score can be obtained by summing up the individual scores and weighed depending upon the stress caused to the individual. This scale assesses the events in lifetime or within a short span of time.

Selection of sample and controls

The sample population of the study comprised of 200 patients admitted for suicide attempts in Medicine, Surgical and Intensive Medical Care wards and referred to the Department of Psychiatry for evaluation during the period of April 2008 to September 2008. Out of 200 patients, 8 patients refused Psychiatric evaluation and 67 patients were below 18 years of age, hence excluded from the study. Then MINI PLUS was administered to the remaining 125 patients. Forty three patients had a Psychiatric diagnosis, of whom 8 patients had a diagnosis of personality disorder (Axis II Disorder) and 5 patients did not give consent for the study .

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Therefore 30 patients who fulfilled the inclusion criteria were taken as cases .Of the remaining 82 patients who did not have an Axis diagnosis , 30 age and sex matched patients were taken as controls.

OBSERVATIONS AND RESULTS

Table-1 Age Distribution

Age (Year)	GROUP				Chi-square test
	Case		Control		
	n	%	n	%	
< 20	9	30.0	9	30.0	$\chi^2 = 0$ p = 1 Not significant
20 – 30	16	53.4	16	53.4	
30 – 40	4	13.4	4	13.4	
> 40	1	3.3	1	3.3	

There was no significant statistical difference among age distribution between cases and control group.

Table-2 Sex Distribution

Sex	GROUP				Chi-square test
	Case		Control		
	n	%	n	%	
Male	8	26.7	8	26.7	$\chi^2 = 0$ p = 0.29 Not significant
Female	22	73.3	22	73.3	

There was no significant statistical difference between cases and control in sex distribution. Females predominated in the study group (73.3 %)

Table-3 Religion

Religion	GROUP				Chi-square test
	Case		Control		
	n	%	n	%	
Hinduism	26	86.7	26	86.7	$\chi^2 = 0.533$ p = 0.765 Df = 2 Not significant
Islam	2	6.7	1	3.3	
Christianity	2	6.7	3	10.0	

Among religion, there was no significant statistical difference between cases and control group. Hindus constituted highest percentage among cases and control groups.

Table-4 Marital Status

Marital Status	GROUP				Chi-square test
	Case		Control		
	N	%	n	%	
Married	19	63.3	18	60.0	$\chi^2 = 0.070$ p = 0.79 Df = 1 Not significant
Unmarried	11	36.7	12	40.0	

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There was no significant statistical difference between cases and control group in marital status. Majority of the patients in cases and control group were married.

Table-5 Educational Status

Education	GROUP				Chi-square test
	Case		Control		
	N	%	N	%	
Illiterates	2	6.6	4	13.4	$\chi^2 = 4.65$ p = 0.19 Df = 3 Not significant
Upto 8th Std	5	16.7	8	26.7	
9th-12th Std	18	60.0	17	56.6	
Higher Studies	5	16.7	1	3.3	

There was no significant statistical difference in educational status between cases and controls.

Table-6 Occupation

Occupation	GROUP				Chi-square test
	Case		Control		
	n	%	N	%	
Employed	13	43.3	10	33.4	$\chi^2 = 2.627$ p = 0.268 Df = 2 Not significant
Unemployed	9	30.0	6	20.0	
House Wife	8	26.7	14	46.6	

There was no significant statistical difference in occupation status between cases and controls.

Table-7 Family System

Family System	GROUP				Chi-square test
	Case		Control		
	n	%	N	%	
Nuclear	25	83.3	27	90.0	$\chi^2 = 0.576$ p = 0.447 Df = 1 Not significant
Joint	5	16.7	3	10.0	

There was no significant statistical difference between cases and controls in family system.

Table-8 Socioeconomic Status

Socioeconomic status (Income/Month)	GROUP				Chi-square test
	Case		Control		
	n	%	n	%	
<Rs.3000	10	33.3	11	36.7	$\chi^2 = 0.0733$ p = 0.786 Df = 1 Not significant
>Rs.3000	20	66.7	19	63.3	

There was no significant statistical difference in socioeconomic status between cases and control population.

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Table-9 Domicile

Domicile	GROUP				Chi-square test
	Case		Control		
	n	%	n	%	
Urban	25	83.3	19	63.3	$\chi^2 = 3.4848$ p = 0.175 Df = 2 Not significant
Sub Urban	5	16.7	10	33.4	
Rural	0	0	1	3.3	

There was no significant statistical difference in domicile between cases and control population.

Table-10 Type of Dwelling

Type Of Dwelling	GROUP				Chi-square test
	Case		Control		
	N	%	N	%	
Rental	25	83.3	19	63.3	$\chi^2 = 1.269$ p = 0.259 Df = 1 Not significant
Own	5	16.7	11	36.7	

There was no significant statistical difference in type of dwelling between cases and control population.

Table 11 Axis – 1 Diagnosis – Break Up Details

S. No	AXIS 1 DIAGNOSIS	Cases	
		N	%
1	Major Depressive Disorder	16	53.4
2	Substance Use Disorder	6	20.0
3	Schizophrenia and Psychotic Disorders	2	6.6
4	Adjustment Disorder	4	13.4
5	Mixed Anxiety & Depression	2	6.6

Among the Axis one diagnosis of cases, 16 persons (53.4%) came under Major Depressive Disorder. 6 persons (20%) belonged to the category of substance use disorder. 4 persons (13.4%) had adjustment disorder. 2 persons (6.6%) suffered from Schizophrenia and Psychotic disorder 2 Persons (6.6%) were found to have mixed anxiety and depression.

Table 12 Suicidal Intent Score

S.NO	Intent Score	Group				SIGNIFICANCE
		Cases		Control		
		N	%	N	%	
1	LOW	13	43.3	30	100	$\chi^2=23.720$ Df=2 p=0.0001 Highly significant
2	MODERATE	9	30.0	0	0	
3	HIGH	8	26.7	0	0	

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Table 13 Comparison of Stressful Life Events - Scores and Number Of Events.

S. No		Group				Significance
		Cases		Controls		
		Mean	SD	Mean	SD	
1	PSLE Score	118.13	45.024	52.33	30.069	t= 6.6566 p=0.0001
2	Number of stressful life Events	2.100	0.8030	1.00	0.5872	t= 6.0564 p=0.0001 Highly significant.

This table shows that the cases have significant life event stressors both as total mean score and number of events. The 'p' value of 0.0001 which is highly significant implies the same in statistical terms.

Table 14 Comparison of Significance Of Psle- Score And Number Of Events.

S. No		Group				Significance
		Cases		Control		
		N	%	N	%	
1	PSLE Score					$\chi^2= 22.2593$ p=0.0001
	1 Significant (>110)	18	60	1	3.3	
	2 Not Significant(<110)	12	40	29	96.7	
2	Number of events	11	36.7	0	0	$\chi^2= 13.4694$ p=0.0002 Highly significant
	1 Significant (>2)					
	2 Not Significant (< 2)	19	63.3	30	100	

On comparing the significance of PSLE Score and the number of life events using Chi - square test, the cases had more life stresses compared to controls as shown in the table.

DISCUSSION

Clinical - socio - demographic variables of cases and controls: Comparing the two groups over socio demographic variables showed no statistically significant difference. This shows that the two groups are well-matched for education, marital status, occupation, income, family system and domicile (Table - 1).

Among cases i.e., suicide attempters with Axis I disorders Major Depressive Disorder was the diagnosis for 16 persons (53.4%). Substance use was found in 6 (20 %), Adjustment disorder in 4 persons (13.4%), Schizophrenia and Psychotic disorder was present in 2 (6.6%) and 2 persons (6.6%) belonged to the category of mixed anxiety and depression. This results are almost similar to previous studies.

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In our study, among cases, 17 persons (56.7%) scored moderate and high scores where as all the controls (100%) score low in suicide intent scale. The difference is highly significant in statistical terms with a p value of 0.0001($p < 0.05$). This proves that suicidal intent is more among patients with axis 1 comorbidities. The above results conform to the previous studies.

Our study has found out that the cases had a significant mean PSLE Score of 118.13 compared to a mean score of 53.33 of controls. Adding to this the cases had a mean of 2.1 for the number of stressful events while the controls had a mean of 1.0. There is a significant statistical difference between cases and controls on the PSLE Scale and this is further strengthened by a high p value of 0.0001 on comparing the significance of the stress score and the number of life events. This finding is contrary to reason where already vulnerability exists in the form of a mental health issue and with this in the background even a mild raise in live events or stress should increase the suicidal intent but a higher number of events are seen in the persons with psychotic disorders.

This may be explained by the reason that persons with mental health issues may have higher life events due to their illness or life events are associated with causation of mental illness and have made an attempt which was more serious but prevented by the rescue factors rather than merely being an attempt. Another possibility is that in the controls impulsivity may be more and resilience to stressors may be found less in this sample alone.

Summary

Suicide attempts and Psychiatric illness are inter related in a complex and bi directional way such that either of them leaves an impact on the other. People with Psychiatric morbidity are at high risk of attempting suicide. Even though extensive research works have been done in suicide, there is a paucity of studies focusing the mentally ill attempters, especially with reference to Intent and Lethality.

Hence the present study designed to study the various parameters , contributing factors and Risk factors associated with suicide attempts of patient with Axis I disorders. Results indicate that two groups did not differ significantly on Socio Demographic variables. Descriptive analysis of cases shows 53.4% to have depressive disorder, 20 % suffering from substance use disorder, 13.4 % with adjustment disorder and 6.6 % in each of the two categories of Schizophrenia and Mixed anxiety and depression.

The suicidal intent i.e. the intent to die is high in suicide attempters with Axis I Disorder s compared to attempters who do not suffer from any Psychiatric illness. Also patients with Axis I Disorders make lethal attempts compared with the cases whose attempts are marked with low lethality. Compared to attempters without Psychiatric illnesses, the study population with Axis I disorder had more significant life stresses and made more serious attempts. The presence of higher life events in the background of mental illness may have contributed to the

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higher lethality of the attempt. Among patients with Axis I Disorder there was a significant positive correlation between the suicidal intent and lethality.

CONCLUSION

1. The suicidal intent is high in Suicide attempters with Axis I Disorders.
2. Stress factors play a major role in Suicide attempters with Axis I disorders.

Limitation

As this is a hospital based study, the finding could not be generalized to the community population

Axis II Disorder has not been studied in this study population. It is a major limitation considering the fact that co – morbid Axis II Disorders, especially Bipolar and Antisocial personality disorder are more often associated with suicide attempts. Impulsivity has not been measured in this study which might have thrown more light on the persons who did not have any axis I disorder but still attempted with less psychosocial stressors.

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Conflict of Interests: The author declared no conflict of interests.

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