ORIGINAL RESEARCH PAPER

Psychiatry

KEY WORDS: Suicide, Attempts, Impulsiveness.

IMPULSIVITY AND METHODS OF SUICIDAL ATTEMPTS.

Dr Chandra Sekhar Tripathy Associate Professor, Dept Of Psychiatry, MKCG Medical College, Berhampur, Odisha.

Dr Bhabani Shankar Shit* MD (Psychiatry), Associate Professor, Dept Of Psychiatry, HTMC & Hospital, Rourkela, Odisha. *Corresponding Author

Dr Amrit Pattojoshi M.B.B.S., M.D, DPM., Professor, Dept Of Psychiatry, Hi-Tech Medical College And Hospital, Bhubaneshwar, Odisha

Dr. Ajay Kumar Bakhla M.B.B.S., M.D, DPM., Associate Professor of Psychiatry, Department Of Psychiatry, Rajendra Institute Of Medical Sciences (RIMS), Ranchi, Jharkhand, India-834009

ABSTRACT

OBJECTIVE: To assess impulsiveness across hostile and non hostile methods with suicidal attempts.

METHODS: A total sample size of 70 persons who attempted suicide at a general hospital setup were included and investigated for the study. All subjects were assessed with their socio-demographic profile and all persons were subjected to standard psychiatry interview, mental status examinations. Further psychiatric diagnosis was established and BIS and HADS for depression rating were done.

RESULTS: A total of 70 persons with mean age of 29.55 ± 8.35 years consisted of 28 males and 42 female suicide attempters were investigated. Medication overdose or pesticide, constitute as non hostile attempter consisting 51.4 % of the sample, whereas the second group consisted of attempted by wrist slashing (30%), hanging (8.6%), Neck slashing (5.7%) and drowning (4.3%).

We compared mean BIS and HADS depression score across these two groups with independent t test. The mean score of BIS across these two groups were 57.26 ± 5.38 and 54.44 ± 5.21 respectively for hostile attempters and soft attempters (t=2.225; df = 68, p = .029).

CONCLUSIONS: The present study revealed that selecting hostile or aggressive means of suicidal attempts is influenced by impulsivity.

INTRODUCTION

Presence of a mental disorder is considered as an important risk factor associated with all suicidal phenomena, specially severe depression is one of the main cause of suicide attempts and completed suicides [1-2]. On the other hand impulsivity is a main dimension of suicidality that may or may not be associated with depression [2].

There are studies that support the role of impulsive and aggressive behaviors in the risk of suicide. Studies assessing living patients with major depressive disorder have indicated that suicide attempters have higher levels of impulsive and aggressive behaviors [3-6]. Certain studies as found in a major meta analysis reported role of alcohol or other substance use that influence to increase impulsiveness and aggressiveness, that ultimately effects suicidal behavior.[7]

Similarly, studies examining the prevalence of these traits in some other diagnostic categories have also suggested that attempters are more likely to be impulsive and aggressive [10-13]. However, data on impulsive and aggressive behaviors in suicide completers are limited and based primarily on indirect evidence, such as the prevalence of diagnostic categories associated with aggressive and impulsive traits. These studies showed that borderline personality disorders are associated with an increased risk of suicide when they are comorbid with major depressive disorder [14]. There are evidences of association between aggression and suicide [15,16], That may be symptom constellation of mood disorders or psychotic disorders including mania and schizophrenia.

Many previous studies in alcoholic individuals have shown that certain personality traits such as behavioral disinhibition and aggression are linked to suicidal behavior. [8,9]

We planned this cross sectional observational study among persons who attempted suicide to assess the impulsiveness and their methods of suicidal attempts.

MATERIALS AND METHODS

The study was conducted at a tertiary hospital having a full-fledged department of psychiatry, offering round the clock emergency services. The department also offers consultation liaison services to all other specialties, super specialty departments and general emergency services. All persons who were above 18 years of age, who were brought to the casualty department with history of self-destructive behavior were included in the study. The investigator assured the patient, as well as the caregivers, full confidentiality. Informed consent was obtained from all. The study was approved by institution's ethical committee. All persons were subjected to standard psychiatry interview and appropriate psychiatric diagnosis was given if any constellation of symptoms satisfied the criteria of ICD-10, diagnostic criteria for research.

Tools

Socio-demographic Data Sheet: The socio demographic data sheet included age, marital status, religion, education and occupation, mode of suicidal attempts .

The Barrat Impulsiveness Scale [BIS] version 11: It is a self-report questionnaire administered to assess the frequency of impulsive and impulse-related thoughts and behaviours. Participants respond to 30 statements with response alternatives ranging from (1) rarely or never to (4) almost always or always. The 30 self-report items are scored between 0 to 4. The BIS-11 is worded to indicate non-impulsiveness to avoid a response set. Cumulative scores range from 30 (low in trait-impulsivity) to 120 (high in trait-impulsivity). Internal consistency of responses to the BIS have been reported to range from $\alpha = 0.79$ to $\alpha = 0.83$. [17] BIS-11 has a three factor subscale model of impulsivity determined by factor analysis that includes attentional impulsiveness [attention and cognitive instability], motor impulsiveness [motor and perseverance], non-planning impulsiveness [self-control and cognitive complexity].

Hospital Anxiety and Depression Scale (HADS) [18]: this is very well validated scale to assess anxiety and depression among hospital

based patients. It consists 14 questions, 7 scoring anxiety and 7 scoring depression. Patients were asked to read each question and place a tick against the reply that came closest to how they had been feeling that day. Each answer was scored 0, 1, 2 or 3. The possible range of scores was therefore 0 to 21, with higher scores indicating greater levels of anxiety. Score of 0-7 is considered normal, scores of 8-10 is borderline abnormal and scores of 11-21 is abnormal case.

STATISTICAL ANALYSIS:

The collected data of all patients was statistically analyzed, using Statistical Package for Social Sciences (SPSS, Inc., Chicago, Illinois) version 10.0. Data analysis included means and standard deviations for complete sample. Frequency analysis was used to determine the prevalence of variables. The parametric t-test was used to determine if differences existed between the groups. Statistically significant levels are reported for p values less than or equal to 0.05. Highly significant levels are p values less than .001.

RESULTS:

A total of 70 persons who attempted suicide were investigated for this study. The sample consisted of 28 males and 42 females, (male:female ratio comes to 1:1.5) . The sample consisted of 45 unmarried and 25 married people, mostly were hindu by religion 85.7% and mostly belonged to urban habitat (47.4%) followed by semi urban and rural habitat 21.4 % and 31.4% respectively. Occupation wise mostly were students 48.6%, followed by unemployed 38.6 % and only 12.9% were employed among suicide attempters [Table 1]. The mean age of total sample was 29.55 ± 8.35 years.

The most common method used for suicidal attempt in this study was using medication overdose or pesticide, that constitute as 51.4 % of the sample, 30% attempted by wrist slashing, hanging by 8.6%, Neck slashing by 5.7% and finally 4.3% by drowning. Neck slashing was found exclusively among male patients and there was alcohol abuse found with these patients. [Table-1]

On diagnostic evaluation 32.9% of the sample had no diagnosis, Acute stress and adjustment problems were 35.75 and it was most commonly associated problems. Depression constituted 20%, and personality disorders was found among 11.4% of suicide attempters.

Based on the suicidal method employed we categorized the sample in two groups first group on persons consuming medications overdose or consuming pesticides which may be considered as soft methods. The second group consisted of hanging, cutting wrists or neck, and drowning may be considered as more violent modes of suicidal attempts. We compared mean BIS and HADS depression score across these two groups with independent t test. The mean score of BIS across these two groups were 57.26 ± 5.38 and 54.44 ± 5.21 respectively for hostile attempters and soft attempters (t=2.225; df = 68, p = .029). However there was no significant difference of mean depression rating across these two groups as measured with HADS as 15.20 ± 8.35 and 16.91 ± 7.40 respectively for hostile and soft attempters (t= -.908; df = 68, p= .367) (Table -2)

DISCUSSION

In this study we examined the socio demographic profile, diagnosis and modes of attempts among suicidal attempters, who were survived and admitted to ours hospital and psychologically evaluated and counseling. We evaluated a total of 70 attempters consisting of 28 males and 42 females, this reflects male:female ratio as 1:1.5. This found gender ratio is concurrent with many earlier studies, including the 16 centre European and other study reported same gender ratio [19-21]

.

The mean age of ours study was found to be 29.55 years, The age of suicide attempters ranged from 16 to 45 years. Many study reflects similar age related vulnerability [20,21]. Unemployment is also significant associated 38.6 % along with 48.6% of students, shows the impact of unemployed in men and women is striking and indicates that it constitutes suicidal constructs. The figures are comparable to those of completed suicides.

Regarding modes of suicidal attempts 50-52% of the sample used drug overdose or insecticide consumption, in contrast total 10 subjects attempted much violent or lethal methods like hanging or neck slashing, additionally only 3 persons attempted drowning. More lethal means of attempt is usually found in completed suicide. We found neck slashing only among male attempters, which was also associated with alcoholism.

We established psychiatric diagnosis among 67.1 % of patients of suicidal attempters, Among the diagnosis stress and adjustment remained most common problems among (35.7%). High prevalence of psychiatric illness is reported in many studies [22], specially mood disorders were reported in 45-77% of suicides [23]. Impulsivity is an well known factors contributing to suicidality and aggressive behavior [3-6]. In ours study we found significantly higher BIS score of hostile attempters, which implicates influence of impulsivity for selecting hostile or aggressive means of suicidal attempts.

Limitation of this present study includes hospital based, small sample size and observational design.

CONCLUSION

The present study revealed that selecting hostile or aggressive means of suicidal attempts is influenced by impulsivity.

Table 1. Socio Demographic and clinical variables and their frequency and percentage (n= 70)

			Frequency	Percent
1.	**Gender**	male	28	40.0
		female	42	60.0
2.	**Marital Status**	married	25	64.3
		unmarried	45	35.7
3.	**Religion**	hindu	60	85.7
		muslim	9	12.9
		christian/others	1	1.4
4.	**Habitat**	rural	22	31.4
		urban	33	47.1
		semi urban	15	21.4
5.	**Occupation**	student	34	48.6
		employed	9	12.9
		unemployed	27	38.6
6.	**Methods of attempt**	overdose	36	51.4
		drowning	3	4.3
		wrist slashing	21	30.0
		Hanging	6	8.6
		neck slashing	4	5.7
7.	**Diagnosis**	No diagnosis	23	32.9
		Acute stress /	25	35.7
		Depression	14	20.0
		PD	8	11.4
		no diagnosis	23	32.9

REFERENCES

1. Kessler, R.C., Borges, G., Walters, E.E., 1999. Prevalence of and risk factor for lifetime suicide attempts in the National Comorbidity Survey. Arch. Gen. Psychiatry 56, 617–626
2. Mann, J.J., Waternaux, C., Haas, G.L., Malone, K.M., 1999. Toward a clinical model of suicidal behavior in psychiatric patients. Am. J. Psychiatry 156, 181–189.
3. Corruble E, Damy C, Guelfi JD: Impulsivity: a relevant dimension in depression regarding suicide attempts? J Affect Disord1999; 53:211–215
4. Weissman M, Fox K, Klerman GL: Hostility and depression associated with suicide attempts. Am J Psychiatry 1973; 130:450–455
5. Stein D, Apter A, Ratzoni G, Har-Even D, Avidan G: Association between multiple suicide attempts and negative affects in adolescents. J Am Acad Child Adolesc Psychiatry 1998; 37:488–494
6. Malone KM, Szanto K, Corbitt EM, Mann JJ: Clinical assessment versus research methods in the assessment of suicidal behavior. Am J Psychiatry 1995; 152:1601–1607
7. Harris E. C. & Barraclough B. Suicide as an outcome for mental disorders. A meta-analysis. Br J Psychiatry 170, 205–228 (1997).
8. Bergman B. & Brismar B. Hormone levels and personality traits in abusive and suicidal male alcoholics. Alcohol. Clin. Exp. Res. 18, 311–316 (1994).
9. Suominen K., Isometsä E., Henriksson M., Ostamo A. & Lönnqvist J. Hopelessness, impulsiveness and intent among suicide attempters with major depression, alcohol dependence, or both. Acta Psychiatr Scand 96, 142–149 (1997).
10. Grosz DE, Lipschitz DS, Eldar S, Finkelstein G, Blackwood N, Gerbino-Rosen G, Faedda GL, Plutchik R: Correlates of violence risk in hospitalized adolescents. Compr Psychiatry 1994; 35: 296–300

11. Maiuro RD, O'Sullivan MJ, Michael MC, Vitaliano PP: Anger, hostility, and depression in assaultive vs suicide-attempting males. J Clin Psychol 1989; 45:531–541
12. Burch EA Jr: Suicide attempt histories in alcohol-dependent men: differences in psychological profiles. Int J Addict 1994; 29:1477–1486
13. Soloff PH, Lis JA, Kelly T, Cornelius J, Ulrich R: Risk factors for suicidal behavior in borderline personality disorder. Am J Psychiatry 1994; 151:1316–1323
14. Cheng AT, Mann AH, Chan KA: Personality disorder and suicide: a case-control study. Br J Psychiatry 1997; 170:441–446
15. Brent DA, Johnson BA, Perper J, Connolly J, Bridge J, Bartle S, Rather C: Personality disorder, personality traits, impulsive violence, and completed suicide in adolescents. J Am Acad Child Adolesc Psychiatry 1994; 33:1080–1086
16. Conner KR, Conwell Y, Duberstein PR: The validity of proxy-based data in suicide research: a study of patients 50 years of age and older who attempted suicide, II: life events, social support and suicidal behavior. Acta Psychiatr Scand 2001; 104:452–457
17. Barratt ES: Factor analysis of some psychometric measures of impulsiveness and anxiety. Psychol Rep 1965; 16:547–554
18. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. Acta Psychiatr Scand 1983;67:361-70.
19. Barraclough B, Bunch J, Nelson B et al. A hundred cases of suicide: clinical aspects British Journal of Psychiatry 1974; 125: 355-373.
20. Ghosh D. Platelet Serotonin levels and its correlation with finger length. Indian J Psy 2008; 50(4): 253-256.
21. Murphy GE, Wetzel RD. Life time risk of suicide in alcoholism. Arch Gen Psychiatry 1990; 47: 387-392
22. Jain V, Singh H, Gupta SC et al. A study of hopelessness, suicidal intent and depression in cases of attempted suicide. Indian journal of psychiatry 1999; 41: 122-130
23. Darotea Muck Selar, Miro J, Nela P Platelet serotonin concentration and suicidal behaviour in recurrent major depression. Journal of affective disorders; 39: 73-80