



**A STUDY ON RELATION BETWEEN SUICIDE ATTEMPTS AND CLINICOSOCIAL  
FEATURES OF BIPOLAR DISORDER PATIENTS IN A MEDICAL COLLEGE  
HOSPITAL**

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**ABSTRACT**

**Introduction:** Suicide, which is both a highly individualized act, is a common endpoint for many patients with severe psychiatric illness. The mood disorders like depression and bipolar disorders are by far the most common psychiatric conditions associated with suicide. At least 25% to 50% of patients with bipolar disorder attempt suicide at least once. Our aim is to identify clinical predictors of suicide attempts in patients with bipolar disorder through this study. **Methodology:** This study included bipolar patients who were treated in the Psychiatry Department, Kanyakumari Medical college Hospital, Asaripallam from jan to june 2018; an informed consent was obtained from the participants. Two hundred bipolar disorder patients were assessed by using the structured clinical interview for Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> edition (DSM-IV) Axis-I (SCID-I) in order to detect all possible psychiatric comorbid diagnoses. Clinical predictors of suicide attempts were compared by taking patients into two groups –those who have attempted suicide and not attempted. This is a retrospective study. **Results:** The suicide attempt rate by patients in our study group is 21.5%. Suicide attempters with bipolar disorder had more lifetime comorbidity of eating disorder. Female gender and family history of bipolar disorder were significantly associated with suicide attempts. There was no difference between groups in terms of onset age of bipolar disorder, total number of episodes, and other factors. **Conclusion:** Our study revealed that female gender, family history of bipolar disorder are more frequent in bipolar patients with at least one suicide attempt.

**KEYWORDS:** Suicide, family history of bipolar disorder.

**INTRODUCTION**

Bipolar disorder (BD) is a mental disorder having serious risks, particularly associated with increased frequency of suicide attempts. Approximately half of all bipolar patients try to commit suicide at least once in their lifetime.<sup>[1,3]</sup> This percentage is 30 times higher than the population with no psychiatric disorder which is way higher.<sup>[4]</sup> The existence of previous suicide attempts is one of the most important factors for death resulting from suicides.<sup>[5]</sup> Thus, it is essential to determine the risk factors associated with suicide attempts particularly in patients with bipolar disorder. Suicide attempt is associated mainly with family suicide history, longer hospitalization due to psychiatric reasons, early age of onset,<sup>[6,7]</sup> extent of depression and Axis-I comorbidity, including particularly generalised anxiety disorder<sup>[8]</sup> and substance use disorder<sup>[9]</sup> and personality disorders.<sup>[10]</sup> This study aims to determine the suicide attempt rates in bipolar patients, and to identify clinical factors which increases the risk of suicide attempts in patients with bipolar disorder, by comparing the characteristics of

suicide attempters and non-suicide attempters in a tertiary care teaching hospital.

**METHODOLOGY**

This study included bipolar patients who were treated in the Psychiatry Department, Kanyakumari medical College hospital, Asaripallam from jan to june 2018; an informed consent was obtained from the participants. All patients were treated as outpatients. All patients were subject to structured clinical interview for DSM IV/clinical version (SCID-I/ CV), and 200 patients with bipolar disorder were included in the study. Additional axis-I psychiatric disorders accompanying bipolar disorder were also evaluated. A self-prepared semi-structured case proforma comprising sociodemographic and clinical features of the patient was used. Based on the data, the patients were separated into 2 groups, Suicide attempter group with at least one suicide attempt, and a non-suicide attempter group. Groups were compared in terms of demographic, clinical, and comorbidity features. The study design is retrospective.

The ethics committee approval of this study was obtained prior to starting study. Inclusion criteria were patients diagnosed with bipolar disorder, age above 18 years and who were willing to take part in the study. Exclusion criteria were patients with mental retardation, mental disorder based on their medical condition. Statistical calculations were performed using SPSS Version 21. Unpaired t test was used when the variables indicated a normal distribution, and Mann Whitney-U test was used when the variables did not indicate a normal distribution to compare between groups. Chi square test was performed during the evaluation of qualitative data. Statistical significance level was established at  $p < 0.05$ .

## RESULTS

In our study 200 patients who were selected based on inclusion criteria and exclusion criteria were analysed. In our study population, 21.5% ( $n=43$ ) of the subjects had at least one suicide attempt. The mean age of study population at the time of the interview was  $45 \pm 13.6$  years. Suicide attempt was significantly more frequent in

females (15%) than males (6.5%) ( $p=0.022$ ). Further we compared patients based on their marital status and the findings revealed that suicide attempt was significantly much higher in divorced or widowed patients than patients who have never been married ( $p=0.033$ ). Lifetime comorbidity of one or more additional diagnosis was seen in 72% of our study population. There was no significant difference between bipolar patients with any additional diagnosis and bipolar patients with no additional diagnosis in terms of suicide attempt. When comorbidities accompanying bipolar disorder were separately evaluated, eating disorder was found to be high in patients who attempted suicide which was statistically significant ( $p=0.013$ ). Patients with such associated eating disorders were mainly females. When the family history of bipolar disorder was separately evaluated among affective disorders, there was no significant difference with suicide attempt. There was no difference between groups in terms of onset age of bipolar disorder, total number of episodes, hospitalization (**Table 1**).

**Table 1: Comparison of various factors between groups.**

Factors	Suicidal Attempt (N=43)	No Suicidal Attempt (N=157)
SEX		
MALE	13	61
FEMALE	30	96
MARITAL STATUS		
MARRIED	5	92
UNMARRIED	16	52
DIVORCED/WIDOWED	22	13
SUBTYPE		
TYPE I	37	143
TYPE II	6	14
ASSOCIATED DISORDER		
GAD	18	80
SOMATIZATION DISORDER	3	8
EATING DISORDER	13	3
FAMILY HISTORY		
PRESENT	23	58
ABSENT	20	99
AGE OF ONSET		
MEAN $\pm$ SD (YEARS)	$21 \pm 2.56$	$25.62 \pm 6.25$
NUMBER OF HOSPITALISATION		
MEAN $\pm$ SD	$2.6 \pm 0.56$	$2.2 \pm 0.31$

## DISCUSSION

The rate of bipolar disorder patients who attempted to commit suicide at least once in their lifetime (21.5%) was lower than the rates reported in previous studies done by various researchers. It is a known fact that suicide behaviour varies in different cultures and in different societies.<sup>[11]</sup> Two other separate studies conducted in similar designs as that of our study revealed the prevalence of lifetime suicide attempt rate was 3.5% in Turkey<sup>[12]</sup> and 4.6% in USA.<sup>[4]</sup> This result is reported to be affected from some cultural factors such as strong familial bonds. Also in our study female had suicide

attempts higher than in male patients ( $p=0.022$ ). It is proven by many previous studies done by various researchers that suicide attempt is more frequent in females than males.<sup>[13]</sup> The rate of suicide attempt in female bipolar patients is reported to be twice the same rate in males, in one another study.<sup>[4]</sup> Our findings are consistent with the previous studies in this aspect. A researcher who did an extensive work on bipolar disorder revealed family history of suicide had an impact on suicide attempt in patients. These findings lead us to think that specific genetic and biological factors may also be effective in suicidal behaviour. Consistent with

such finding, family suicide history is reported to be more in suicide attempter bipolar patients than non-suicide attempters.<sup>[13,14]</sup> Our study is similar to above in this aspect reporting that a significant difference exists between these 2 groups in terms of suicide history in family members.<sup>[6]</sup>

Although our study results are inadequate for making a strong conclusion regarding comorbidities, it may be speculated that the suicide attempt in bipolar patients is associated with comorbid disorder beyond the specific genetic and biological factors. It is reported that anxiety disorders<sup>[15]</sup> particularly panic disorder<sup>[16]</sup> and social anxiety disorder,<sup>[17]</sup> which present as co morbidity to bipolar disorder in certain patients are associated with suicide attempt. In our study, it is determined that eating disorder comorbidity may be associated with suicide attempt ( $p=0.013$ ). A review of the data reveals that in bipolar patients, eating disorder comorbidity may be expected to be associated with suicide attempt. In addition, eating disorder is reported to be more frequent in bipolar females than bipolar males.<sup>[18]</sup> Also in our study, all of the eating disorder cases were females. Suicide attempt rate in females is found to be significantly higher than males. Incidentally, the relation between eating disorder comorbidity and suicide attempt in bipolar patients may be related to gender of the patient. Despite suicide attempts being found to be significantly more frequent in eating disorder patients with comorbid bipolar, eating disorder should not be interpreted as directly related comorbidity. Furthermore, in eating disorder patients, impulsivity was found to be associated with an increase in suicide attempts.<sup>18</sup> Similarly, impulsivity is a prominent element of bipolar disorder and is an established risk factor in suicide attempt in bipolar patients. However, in our study, direct impulsive features were not evaluated in detail.

In terms of the relations between suicide and marital status, most of studies focus on the divorce or separation and are more likely to neglect a considerable proportion of bipolar patients who are never married but have relational problems with their romantic partner. In addition, marital status is noted to fail to predict higher suicide risk in major affective disorders. In our study there was significant relation between divorces and widowers with suicide attempt.

To conclude, suicide is a serious complication of BD. It is known that one of the most important risk factors in completed suicides is the previous suicide attempt history. In our study, female gender, family mood disorder history, and comorbidity like eating disorder are found to be more frequent in bipolar patients who have attempted to commit suicide at least once in their lifetime than in non-attempters. Therefore, in order to prevent suicides, it is important to determine the demographic and clinical features, which create a risk for suicide attempt. Reduction of the duration of untreated illness, prevention of mood episodes, and assessment of suicide

risk during depressive and mixed episodes should be the main targets of the treatment. Detection of warning signs about suicide among patients with bipolar disorder may help to distinguish the risky group and prevent suicide.

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