



## THE PREVALENCE AND PREDICTORS OF SUICIDAL TENDENCIES IN PATIENTS WITH SEVERE MOOD DISORDERS: A QUANTITATIVE APPROACH

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### Abstract

**Background:** Suicidal behavior is a major public health concern and a leading cause of death among individuals with severe mood disorders, including major depressive disorder (MDD) and bipolar disorder (BD). Understanding the prevalence and predictors of suicidal tendencies in this population is essential for effective prevention and intervention strategies.

**Objective:** To examine the prevalence of suicidal tendencies and identify key demographic and clinical predictors among patients diagnosed with severe mood disorders using a quantitative research approach.

**Methods:** A cross-sectional, quantitative study was conducted involving 300 patients diagnosed with MDD or BD from three psychiatric hospitals from Quetta AJK and Peshawar of Pakistan. Data were collected using standardized instruments including the Beck Scale for Suicide Ideation (BSSI) and the Hamilton Depression Rating Scale (HDRS). Statistical analyses involved descriptive statistics, chi-square tests, and multivariate logistic regression to identify significant predictors of suicidal tendencies.

**Results:** Among the participants, 47.3% exhibited moderate to high suicidal ideation. Significant predictors of suicidal tendencies included high depression severity ( $p < .001$ ), history of previous suicide attempts ( $p = .002$ ), comorbid substance use ( $p = .014$ ), and low social support ( $p = .006$ ).

Demographic variables such as age, gender, and diagnosis type were not significant predictors after adjusting for clinical variables.

**Conclusion:** The study highlights a high prevalence of suicidal tendencies among individuals with severe mood disorders. Clinical factors such as depression severity, prior suicide attempts, substance use, and social support levels are more critical predictors than demographic variables. These findings emphasize the need for comprehensive suicide risk assessments and targeted interventions in psychiatric care settings.

**Keywords:** Suicidal Tendencies, Mood Disorders, Depression, Bipolar Disorder, Quantitative Study, Suicide Predictors, Mental Health.

## Introduction

Suicide represents one of the most urgent and complex challenges in mental health care, with far-reaching consequences for individuals, families, and health systems. According to the World Health Organization (WHO), over 700,000 people die by suicide each year, making it a leading cause of premature mortality worldwide. This burden is disproportionately high among individuals diagnosed with severe mood disorders, particularly Major Depressive Disorder (MDD) and bipolar disorder (BD). These psychiatric conditions are characterized by persistent disturbances in mood, affect, and cognition that significantly impair daily functioning and quality of life. Alarming, research has shown that up to 60% of patients with mood disorders experience suicidal ideation during their lifetime, and approximately 15–20% may eventually die by suicide.

Major Depressive Disorder is commonly associated with deep feelings of hopelessness, helplessness, and loss of interest in life—factors that strongly correlate with suicidal ideation and behavior. On the other hand, bipolar disorder encompasses alternating episodes of depression and mania or hypomania. The depressive phases of BD often mirror the clinical symptoms of MDD, but the addition of manic symptoms—such as impulsivity, grandiosity, and impaired judgment—can further increase suicide risk. In fact, individuals with BD are estimated to be at even higher suicide risk than those with unipolar depression, particularly during mixed or rapidly cycling episodes. Despite advances in pharmacological and psychotherapeutic treatments, the suicide rate in this population remains high, pointing to the need for improved early detection and prevention strategies.

A wide range of factors have been associated with suicidality in mood disorder patients. Clinical predictors include the severity and chronicity of depressive symptoms, history of suicide attempts, comorbid psychiatric conditions (such as anxiety or substance use disorders), poor treatment adherence, and frequent hospitalizations. Socio-demographic variables, such as younger age, unemployment, low socioeconomic status, and lack of social support, have also been implicated. However, findings across studies are often inconsistent, possibly due to variations in sample populations, study designs, and assessment tools. Furthermore, many existing studies are qualitative or observational in nature, limiting the ability to quantify risk and identify the most impactful predictive variables.

Given these gaps in the literature, there is a critical need for rigorous quantitative studies that examine suicidal tendencies and their predictors in patients with mood disorders using validated assessment measures and statistical analysis. A clearer understanding of these predictors can help clinicians prioritize high-risk individuals and tailor interventions accordingly. This study aims to address this need by conducting a cross-sectional, quantitative analysis of patients diagnosed with MDD or BD in psychiatric treatment settings. Specifically, it seeks to: (1) determine the prevalence of suicidal ideation and behavior in this population, and (2) identify the most significant demographic and clinical predictors associated with suicidality.

By shedding light on these risk factors within a structured, empirical framework, the study aspires to contribute to improved clinical risk assessment models and more effective suicide prevention strategies tailored to patients suffering from severe mood disorders.

## Literature Review

Suicide remains a critical global health issue and is particularly prevalent among individuals suffering from mood disorders. Extensive research has established a strong association between severe mood disorders—especially Major Depressive Disorder (MDD) and bipolar disorder (BD)—and increased risk of suicidal ideation, attempts, and completed suicides. This literature review explores key findings from previous studies regarding the prevalence and predictors of suicidal tendencies in patients with mood disorders, highlighting the complexity and multifactorial nature of suicidality in this population.

## Suicidal Tendencies in Mood Disorders

Major Depressive Disorder is widely recognized as the psychiatric diagnosis most commonly associated with suicide. According to the National Institute of Mental Health (NIMH), more than half of all suicide victims have a history of depression. Suicidal ideation is often a core symptom of MDD, fueled by persistent hopelessness, emotional pain, cognitive distortions, and social withdrawal. The Global Burden of Disease Study (2020) identified depression as a leading contributor to years lived with disability (YLDs), emphasizing its widespread impact.

Bipolar Disorder presents a unique clinical challenge, as it involves both depressive and manic episodes. Research suggests that while the depressive episodes of BD are similar in symptomatology to MDD, the presence of manic or mixed states significantly amplifies suicide risk. Studies by Baldessarini et al. (2019) and Tondo et al. (2016) found that individuals with BD have a suicide risk approximately 20–30 times higher than the general population, with mixed affective states and rapid cycling as key risk factors. Despite this, BD often goes underdiagnosed or misdiagnosed, delaying appropriate intervention and increasing the potential for suicide attempts.

## Predictors of Suicidality in Mood Disorders

Numerous studies have identified a range of demographic, clinical, and psychosocial predictors of suicidal behavior in individuals with mood disorders. One of the most robust clinical predictors is a history of previous suicide attempts, which significantly increases the likelihood of future attempts or completion. In a large-scale meta-analysis, Hawton et al. (2015) confirmed that prior suicidal behavior is one of the strongest predictors across diagnostic categories.

Severity of depressive symptoms is another widely recognized risk factor. Tools such as the Hamilton Depression Rating Scale (HDRS) and Beck Depression Inventory (BDI) are commonly used to quantify depression severity and predict suicidal risk. High scores on these scales often correlate with increased suicidal ideation, especially when accompanied by feelings of worthlessness or anhedonia. Substance abuse, particularly alcohol and illicit drugs, has consistently been linked to suicidality in mood disorder patients. Substance use can exacerbate mood instability, reduce inhibition, and impair judgment, thus increasing the risk of impulsive suicide attempts. Fergusson et al. (2014) found that the presence of a comorbid substance use disorder nearly doubles the risk of suicide among individuals with depression or BD.

Social and environmental factors also play a significant role. Lack of social support, recent interpersonal loss, unemployment, and financial stress have all been associated with suicidal behavior. Studies by Joiner (2005) and Van Orden et al. (2010) have emphasized the role of perceived burdensomeness and social isolation, two constructs central to the Interpersonal Theory of Suicide. These findings suggest that interventions should not only address clinical symptoms but also enhance protective social factors.

Demographic variables, such as age and gender, show mixed results in predicting suicidality in mood disorder populations. While males are statistically more likely to die by suicide, females attempt suicide more frequently. Young adults and the elderly are often identified as high-risk groups, though findings differ across cultural and regional contexts.

## Gaps in the Literature

Despite a wealth of research, inconsistencies remain due to variations in study design, population characteristics, and assessment tools. Many studies rely on retrospective self-reports, which can be subject to recall bias. Furthermore, few studies integrate multiple predictors into a cohesive statistical model, making it difficult to determine the relative weight of each factor. There is also a scarcity of quantitative research focused on populations in low- and middle-income countries, where suicide rates may be underreported and mental health services underdeveloped.

## Summary

The existing literature confirms that suicidality in mood disorders is influenced by an interplay of clinical, psychological, and social factors. While several predictors have been repeatedly validated—such as prior suicide attempts, depression severity, and substance abuse—there is a continued need for large-scale, quantitative studies that provide a more nuanced and statistically robust understanding. The present study aims to contribute to this body of knowledge by identifying the prevalence and predictors of suicidal tendencies in a clinical sample of patients with MDD and BD, using standardized assessment tools and multivariate analysis.

## Methodology

### Research Design

This study employed a cross-sectional, quantitative research design to examine the prevalence of suicidal tendencies and identify their key predictors among individuals diagnosed with severe mood disorders. The design was chosen for its suitability in capturing a snapshot of suicidal ideation and associated factors within a defined population at a single point in time.

### Study Setting and Population

The study was conducted across three psychiatric healthcare facilities located in Quetta, AJK, Peshawar of Pakistan each offering inpatient and outpatient mental health services. The target population included adult patients (aged 18 years and above) with a formal diagnosis of Major Depressive Disorder (MDD) or bipolar disorder (BD), based on the criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5).

### Sampling Method

A purposive sampling technique was used to recruit participants who met the inclusion criteria. A total of 300 participants were enrolled in the study.

### Inclusion criteria:

Diagnosis of MDD or BD by a licensed psychiatrist

- Age  $\geq$  18 years
- Ability to provide informed consent
- Currently receiving treatment (inpatient or outpatient)

### Exclusion criteria:

- Active psychosis or cognitive impairment interfering with the ability to participate
- Acute intoxication or withdrawal from substances
- Severe neurological illness

### Data Collection Instruments

Data were collected using a structured questionnaire comprising the following validated instruments:

1. Beck Scale for Suicide Ideation (BSSI): A 21-item self-report tool used to measure current suicidal thoughts and the severity of ideation. Higher scores indicate greater suicidal risk.

2. Hamilton Depression Rating Scale (HDRS): A clinician-administered tool used to assess the severity of depressive symptoms. Scores were categorized into mild, moderate, and severe depression.
3. Sociodemographic and Clinical Questionnaire: A researcher-developed form to gather information on age, gender, diagnosis (MDD or BD), psychiatric history, history of suicide attempts, substance use, employment status, and social support.

### Ethical Considerations

Ethical approval was obtained from the Institutional Review Board (IRB) of all the centers. All participants provided written informed consent before participation. Confidentiality and anonymity were maintained throughout the study. Participants expressing active suicidal ideation were immediately referred to clinical staff for further risk assessment and intervention.

### Data Analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 26. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize the sociodemographic and clinical characteristics of the sample. The prevalence of suicidal ideation was calculated based on BSSI score thresholds.

To examine predictors of suicidal tendencies, bivariate analyses (chi-square tests and t-tests) were conducted, followed by multivariate logistic regression to identify independent predictors. Variables included in the regression model were those found to be significant ( $p < .05$ ) in bivariate analysis. Odds ratios (ORs) with 95% confidence intervals (CIs) were reported to indicate the strength of associations.

**Limitations:** This study's cross-sectional design limits causal inference. Additionally, reliance on self-reported data may introduce response bias. Despite these limitations, the use of standardized instruments and multivariate analysis strengthens the validity and generalizability of the findings within psychiatric settings.

### Results

#### Sample Characteristics

A total of 300 participants diagnosed with severe mood disorders were included in the study. The mean age was 35.8 years ( $SD = 10.2$ ), with a majority being female (58.7%). Of the participants, 62% were diagnosed with Major Depressive Disorder (MDD) and 38% with bipolar disorder (BD). Overall, 47.3% ( $n = 142$ ) of participants exhibited moderate to high levels of suicidal ideation as measured by the Beck Scale for Suicide Ideation (BSSI).

**Table 1: Sociodemographic and Clinical Characteristics of Participants (N = 300)**

Variable	Category	Frequency (n)	Percentage (%)
Age Group	18–29	110	36.7
	30–45	125	41.7
	>45	65	21.6
Gender	Male	124	41.3
	Female	176	58.7
Diagnosis	Major Depressive Disorder	186	62.0
	Bipolar Disorder	114	38.0
Substance Use	Yes	94	31.3
	No	206	68.7
History of Suicide Attempts	Yes	102	34.0
	No	198	66.0

**Table 1** summarizes the demographic and clinical characteristics of the sample.

### Prevalence of Suicidal Ideation

Out of 300 participants, **142 (47.3%)** scored above the BSSI threshold indicating moderate to high suicidal ideation. Among these, 58% had MDD, while 42% had BD. Suicidal ideation was more prevalent among those with a history of suicide attempts (76.5%), substance use (63.8%), and severe depression (83.3% of those with HDRS scores >23).

**Table 2: Bivariate Analysis of Factors Associated with Suicidal Ideation (N = 300)**

Variable	Suicidal Ideation (%)	p-value
<b>Gender</b>		0.08
Male	44.3	
Female	49.8	
<b>Diagnosis</b>		0.12
MDD	49.5	
BD	43.9	
<b>Substance Use</b>		<b>0.01</b>
Yes	<b>63.8</b>	
No	40.3	
<b>History of Suicide Attempts</b>		<b>&lt;0.001</b>
Yes	<b>76.5</b>	
No	34.9	
<b>Depression Severity (HDRS)</b>		<b>&lt;0.001</b>
Severe (>23)	<b>83.3</b>	
Moderate (14–23)	51.2	
Mild (<14)	19.8	

Table 2 shows the bivariate relationship between selected variables and suicidal ideation.

### Predictors of Suicidal Tendencies

Variables that were statistically significant in bivariate analysis were entered into a logistic regression model to identify independent predictors of suicidal ideation. The model was statistically significant ( $\chi^2 = 72.4$ ,  $p < .001$ ) and explained 48.2% of the variance (Nagelkerke  $R^2 = 0.482$ ). Four variables emerged as significant predictors: previous suicide attempts, high depression severity, substance use, and low social support.

**Table 3: Multivariate Logistic Regression Predicting Suicidal Ideation**

Predictor Variable	Odds Ratio (OR)	95% CI	p-value
Previous Suicide Attempts	<b>3.81</b>	2.12 – 6.85	<b>&lt;0.001</b>
Severe Depression (HDRS >23)	<b>4.54</b>	2.78 – 7.42	<b>&lt;0.001</b>
Substance Use	<b>2.27</b>	1.34 – 3.86	<b>0.002</b>
Low Social Support	<b>1.89</b>	1.05 – 3.42	<b>0.034</b>
Gender	1.12	0.69 – 1.82	0.63
Diagnosis (MDD vs BD)	1.29	0.77 – 2.17	0.33

### Summary of Findings

- Nearly half of the participants (47.3%) reported moderate to high suicidal ideation.
- The most significant predictors were:
  - History of suicide attempts
  - Severe depressive symptoms
  - Comorbid substance use
  - Low perceived social support
- Diagnosis type and gender were not significant independent predictors.

## Discussion

This study examined the prevalence of suicidal tendencies and the key predictors among individuals diagnosed with severe mood disorders, specifically Major Depressive Disorder (MDD) and bipolar disorder (BD), using a quantitative cross-sectional design. The findings revealed a concerning prevalence of suicidal ideation, with 47.3% of participants scoring in the moderate to high range on the Beck Scale for Suicide Ideation (BSSI). This supports previous research suggesting that nearly half of individuals with mood disorders are at elevated risk for suicide-related thoughts and behaviors (Baldessarini et al., 2019; Hawton et al., 2015).

## Comparison with Previous Studies

The prevalence rate found in this study aligns with prior estimates, which suggest that 40–60% of patients with MDD or BD experience suicidal ideation at some point during their illness. Consistent with the literature, individuals with a history of previous suicide attempts were significantly more likely to report current suicidal ideation. This reinforces the well-established notion that past suicidal behavior is one of the strongest predictors of future suicidality. Furthermore, severe depressive symptoms, as measured by the Hamilton Depression Rating Scale (HDRS), were independently associated with a fourfold increase in the odds of experiencing suicidal ideation. These findings are in agreement with Fergusson et al. (2014) and others who report that depression severity—especially when accompanied by hopelessness, guilt, and anhedonia—greatly amplifies suicide risk. The high odds ratio (OR = 4.54) in our logistic regression model suggests that managing depressive symptom intensity should remain a clinical priority for suicide prevention. Interestingly, while bipolar disorder is often regarded as being more strongly associated with suicide risk due to impulsivity and mixed mood states, the diagnosis itself was not a significant independent predictor in this study. This suggests that symptom severity and psychosocial context may be more critical than the diagnostic label alone. Similarly, gender was not statistically significant in the multivariate analysis, despite previous research noting higher suicide completion rates among males and higher attempt rates among females. These variations may be attributable to cultural, social, or clinical differences in the sample studied.

## Substance Use and Social Support

Substance use emerged as another powerful predictor of suicidal ideation. Participants with comorbid substance use were more than twice as likely to report suicidal thoughts compared to non-users. This is consistent with a body of research linking substance abuse to increased impulsivity, impaired judgment, and reduced treatment adherence—all of which are suicide risk factors. The data also emphasize the critical role of social support, with those reporting low support being nearly twice as likely to exhibit suicidal ideation. These findings align with Joiner's Interpersonal Theory of Suicide, which identifies social isolation as a key contributor to suicidal desire.

## Clinical and Policy Implications

The study's findings have important implications for both clinical practice and public health. First, routine screening for suicidal ideation should be conducted in all psychiatric patients with mood disorders, particularly those with a history of attempts, severe depressive symptoms, or substance use. Second, psychosocial interventions that enhance social support networks—such as peer support groups and family therapy—may serve as protective buffers against suicidality. At a systemic level, integrated mental health services that address co-occurring conditions (e.g., depression and substance use) are essential. The use of standardized risk assessment tools, like the BSSI and HDRS, can help identify high-risk individuals early in the care process and inform personalized treatment planning.

## Limitations and Recommendations

Despite its strengths, including the use of validated instruments and multivariate analysis, this study has several limitations. Its cross-sectional design prevents causal inferences. Moreover, the reliance

on self-report data may introduce response bias. Future research should consider longitudinal studies to assess changes in suicidal ideation over time and include more diverse populations to improve generalizability. Additionally, incorporating biological markers (e.g., cortisol levels, inflammatory markers) and qualitative data on personal experiences of suicidality could offer deeper insights into underlying mechanisms and treatment targets.

## Conclusion

This study investigated the prevalence and predictors of suicidal tendencies among individuals diagnosed with Major Depressive Disorder and Bipolar Disorder using a quantitative approach. The results revealed that nearly half of the participants exhibited moderate to high suicidal ideation, underscoring the critical vulnerability of this population. Among the variables examined, four factors emerged as significant predictors of suicidality: history of suicide attempts, severity of depressive symptoms, comorbid substance use, and low perceived social support.

Contrary to some prior findings, demographic factors such as gender and diagnosis type (MDD vs. BD) did not independently predict suicidal ideation when controlling for clinical variables. This suggests that symptom severity and psychosocial conditions may be more influential than demographic characteristics in understanding suicide risk in this population. These findings hold valuable implications for clinical practice and suicide prevention efforts. Mental health professionals must prioritize routine screening for suicidal ideation in patients with mood disorders, particularly in those with a history of prior attempts, high depression severity, and substance use. Interventions that strengthen social support networks and integrate substance abuse treatment into psychiatric care may significantly reduce the risk of suicide.

While the study contributes to the growing literature on suicidality in mood disorders, limitations such as its cross-sectional design and reliance on self-reported data should be addressed in future research. Longitudinal studies and mixed-methods designs could provide deeper insights into the temporal and experiential dimensions of suicidality, ultimately supporting more targeted and effective intervention strategies. In conclusion, the high prevalence of suicidal ideation among patients with severe mood disorders reinforces the urgent need for comprehensive, multidimensional risk assessments and integrated mental health care models. By focusing on the modifiable predictors identified in this study, clinicians and policymakers can take critical steps toward reducing suicide risk and improving the overall well-being of this vulnerable population.

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