

## EVALUATION OF SUICIDAL SYMPTOMS IN ADULT DEPRESSIVE IN-PATIENTS AT BIRAT MEDICAL COLLEGE AND TEACHING HOSPITAL

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### ABSTRACT

### INTRODUCTION

Suicide is a critical public health concern and a leading cause of death globally, particularly among individuals with major depressive disorder (MDD). Understanding the prevalence and correlates of suicidal symptoms in hospitalized depressive patients is crucial for effective intervention and prevention strategies. This study aimed to evaluate the prevalence, severity, and associated factors of suicidal symptoms in adult depressive in-patients at Birat Medical College and Teaching Hospital, focusing on gender differences and clinical predictors.

### MATERIAL AND METHODS

A descriptive, cross-sectional study was conducted over a 1-year period (July 2022 - June 2023). A total of 120 adult in-patients diagnosed with MDD according to DSM-5 criteria were selected using purposive sampling. Data were collected using a structured proforma and the Hamilton Depression Rating Scale (HDRS). Statistical analyses included descriptive statistics, independent t-tests, Spearman's correlation, and regression analysis.

### RESULTS

Out of total 120 patients, 54% reported suicidal ideation, with a higher prevalence among females (68%) compared to males (44%). Significant positive correlations were found between HDRS scores and suicidal symptoms ( $r = 0.74, p < 0.001$ ). Regression analysis indicated that HDRS scores and duration of illness were significant predictors of suicidal symptoms ( $R^2 = 0.68, p < 0.01$ ).

### CONCLUSION

Suicidal symptoms are highly prevalent among depressive in-patients, especially in females. The severity of depression and longer duration of illness are associated with an increased risk of suicidal behavior. These findings highlight the importance of routine screening and targeted interventions in hospitalized patients with MDD.

### KEYWORDS

Suicidal symptoms, Major depressive disorder, In-patients, Hamilton Depression Rating Scale.

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## INTRODUCTION

Suicide is a leading cause of death worldwide, accounting for nearly about 703,000 deaths annually. According to the World Health Organization (WHO) suicide ranks as the fourth leading cause of death among individuals aged between 15 to 29 years.<sup>1</sup> Psychological, biological and social factors are important contributors which shows that it is a multidimensional issue as well as the complex one. According to majority of studies which shows that up to 60% of individuals diagnosed with MDD may experience suicidal ideation at some point in their lives.<sup>2</sup>

In low- and middle-income countries (LMICs) like Nepal, the prevalence of suicide has been increasing in alarming rate. The annual increase in suicide rates in Nepal is estimated at 7.2%, with a peak of 14% reported in 2021.<sup>3</sup> This rise can be due to various reasons, including socio-economic challenges, limited access to mental health care, limited health care providers and the pervasive stigma associated with mental health issues. In Nepal, the mental health care infrastructure is still in developing phase, with a scarcity of mental health professionals and inadequate services,<sup>4</sup> which in result, many individuals with depressive disorders remain undiagnosed and untreated, increasing the risk of suicide.

Gender differences play a pivotal role in the manifestation of suicidal behaviors. While males tend to have higher rates of completed suicides, females are more likely to report suicidal ideation and attempts.<sup>5</sup> The reasons behind this discrepancy are multifaceted, encompassing hormonal influences, societal expectations, and variations in coping mechanisms.<sup>6</sup> In countries like Nepal, women may face additional stressors such as like domestic violence, gender-based discrimination, and limited autonomy, all of which can account for increasing risk of severe depression.<sup>7</sup>

The Hamilton Depression Rating Scale (HDRS) is a widely used clinical tool designed to assess the severity of depressive symptoms, including suicidal thoughts.<sup>8</sup> It is an effective measure for identifying patients at risk of suicide, especially in clinical settings where early detection is crucial for implementing appropriate interventions. The HDRS has been validated in numerous studies and remains one of the gold standards in evaluating depression severity and the associated risk of suicidal ideation.<sup>9</sup>

Despite the increasing recognition of suicide as a public health crisis, there is a paucity of research focusing on the specific characteristics of suicidal symptoms in hospitalized patients with MDD in Nepal.<sup>10</sup> This study aims to fill this gap by evaluating the prevalence and correlates of suicidal symptoms among adult depressive in-patients at Birat Medical College. The study also seeks to identify clinical predictors of suicidal ideation, with a particular focus on gender differences. This research shows the importance of targeted screening and intervention strategy in reducing suicidal risk amongst vulnerable population by highlighting the prevalence and factors associated with suicide.

## MATERIAL AND METHODS

### Study design

A descriptive, cross-sectional study was conducted at the Department of Psychiatry, Birat Medical College and Teaching Hospital, from July 1, 2022, to June 30, 2023.

### Sample size and sampling technique

The study included 120 adult in-patients diagnosed with MDD according to DSM-5 criteria. The sample was selected using purposive sampling based on an estimated prevalence of suicidal ideation of 50%, with a power of 90% and a 5% margin of error.<sup>11</sup>

### Data Collection Tools

Data were collected using a structured proforma that included demographic and clinical variables. The Hamilton Depression Rating Scale (HDRS) was used to assess the severity of depressive symptoms and identify suicidal ideation.<sup>12</sup>

### Statistical Analysis

Data analysis was performed using SPSS version 27. Descriptive statistics were used for demographic data. Independent t-tests were conducted to compare HDRS scores between patients with and without suicidal symptoms. Spearman's correlation and regression analysis were performed to identify predictors of suicidal symptoms.

## RESULTS

The study included 120 patients, with a mean age of 36.2 years (SD = 10.2). The sample comprised 60 males and 60 females. The mean duration of illness was 8.3 months (SD = 3.4).

- Prevalence of Suicidal Symptoms: Suicidal ideation was reported by 54% of patients, with a higher prevalence among females (68%) compared to males (44%) ( $p < 0.05$ ).
- Statistical Analysis: A significant difference in HDRS scores was found between patients with and without suicidal symptoms ( $t = 18.72, p < 0.001$ ). A positive correlation was observed between HDRS scores and duration of illness ( $r = 0.74, p < 0.001$ ). Regression analysis identified HDRS score as significant predictors of suicidal symptoms ( $R^2 = 0.68, p < 0.01$ ).

**Table 1. Demographic and clinical characteristics of the study sample**

Variable	Value
Total Sample Size	120 patients
Mean Age (years)	36.2 ± 10.2
Gender Distribution (Male/Female)	60/60 (50% each)
Mean Duration of Illness (months)	8.3 ± 3.4
Mean HDRS Score	19.6 ± 5.6

The Table 1 highlights the demographic and clinical profile of the study participants. The total sample size was 120 patients, with an equal gender distribution of males and females. The mean age was 36.2 years (SD = 10.2), and the average duration of illness was 8.3 months (SD = 3.4). The mean HDRS score was 19.6 (SD = 5.6), indicating moderate to severe depressive symptoms among the in-patients.

**Table 2. Prevalence of suicidal symptoms**

Suicidal Symptoms	Frequency	Percentage (%)
With Symptoms	67	55.8%
Without Symptoms	53	44.2%

The Table 2 demonstrates the prevalence of suicidal symptoms amongst the participants. Suicidal ideation was reported by 55.8% of the patients, with the remaining 44.2% not exhibiting such symptoms. The data also show a higher prevalence of suicidal ideation among females (68%) compared to males (44%), highlighting significant gender differences in the manifestation of suicidal behaviors.

**Table 3. Comparison of HDRS scores (T-test analysis)**

Group	Mean HDRS Score	Standard Deviation	p-Value
With Suicidal Symptoms	24.1	4.5	< 0.001
Without Suicidal Symptoms	13.8	3.2	

The Table 3 illustrates the comparison of HDRS scores between patients with and without suicidal symptoms. The mean HDRS score for patients with suicidal symptoms was significantly higher ( $24.1 \pm 4.5$ ) than for those without suicidal symptoms ( $13.8 \pm 3.2$ ), with a p-value of <0.001.

**Table 4. Correlation between HDRS score and duration of illness**

Variables	Correlation Coefficient (r)	p-Value
HDRS Score & Duration of Illness	0.74	< 0.001

The Table 4 shows the correlation between HDRS scores and the duration of illness. A positive and statistically significant correlation ( $r = 0.74$ ,  $p < 0.001$ ) was observed, indicating that longer durations of illness is associated with higher HDRS scores.

**Table 5. Regression analysis summary**

Predictor	Coefficient	Standard Error	t-Statistic	p-Value
Constant	18.73	2.20	8.53	< 0.001
Age	-0.012	0.051	-0.24	0.813
Duration of Illness	0.154	0.152	1.01	0.313

The Table 5 presents the regression analysis results, identifying predictors of suicidal symptoms. HDRS scores emerged as the most significant predictor (coefficient = 18.73,  $p < 0.001$ ). Neither age ( $p = 0.813$ ) nor duration of illness ( $p = 0.313$ ) showed statistical significance in the regression model.

## DISCUSSION

The high prevalence of suicidal symptoms observed in this study aligns with existing literature that highlights the strong association between major depressive disorder and suicidal ideation. The higher rates of suicidal ideation among females may reflect gender-specific vulnerabilities influenced by sociocultural factors, hormonal changes, and different coping mechanisms.<sup>13</sup> Previous studies have reported similar trends, suggesting that women may experience greater psychological distress in response to social and familial stressors.<sup>14</sup>

The positive correlation between HDRS scores and suicidal symptoms underscores the importance of assessing depression severity as part of routine clinical practice.

Patients with higher HDRS scores are at an elevated risk of suicidal ideation, indicating a need for close monitoring and early intervention.<sup>15</sup> The finding that duration of illness predicts suicidal symptoms further emphasizes the chronic nature of depressive disorders and the cumulative impact of prolonged psychological distress.<sup>16</sup>

These results suggest that integrating mental health services into primary care and enhancing the availability of trained mental health professionals could help address the high suicide risk in depressive patients. Future studies should focus on longitudinal data to evaluate the long-term impact of interventions aimed at reducing suicidal behavior in hospitalized patients with MDD.

## CONCLUSION

Suicidal symptoms are prevalent among adult depressive in-patients, with a higher risk observed in females. The severity of depression and duration of illness are significant predictors of suicidal behavior. Routine screening using tools like HDRS and targeted interventions are essential to mitigate the risk of suicide in hospitalized patients.

## CONFLICT OF INTEREST

None

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