

## Frequency of Suicidal Attempt in Patients Presenting with Major Depressive Disorder (MDD)

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### Abstract

**Introduction:** Major depressive disorders (MDD) are increasing in our society and there is a high risk of suicidal attempt in patients with depression.

**Objective:** To determine the frequency of suicidal attempt in patients presenting with major depressive disorders.

**Patients AND METHODS:** This Cross-sectional study was conducted at the department of Psychiatry Bolan Medical Complex hospital Quetta from 13-06-2014 to 15-06-2015. Patients fulfilling the inclusion criteria Taking a thorough history from all the patients and doing mental state examination, the final diagnosis is made according to ICD-10 criteria for depressive disorder. Diagnosis of depression with suicide attempt was made by two consultant psychiatrists. The severity of depressive disorder was assessed by applying HAM-D rating scale for depression version 17. Its scores can be interpreted as minimal or no depression (0-7), Mild (8- 17), Moderate (18-25), Sever (26+). Were enrolled for study. After taking history and performing mental state examination, the final diagnosis is made according to ICD-10 criteria for depressive disorder. Diagnosis of depression with suicide attempt was made by two consultant psychiatrists. The severity of depressive disorder was assessed by applying HAM-D rating scale for depression version 17.

**Results:** Out of 130 patients, 72(55.38%) majority of female and 58(44.62%) male with mean age of  $28.52 \pm 7.80$  years and mean duration of disease  $3.31 \pm 1.467$  years were included with minimum and maximum duration its between 1year to 6 years. Eighty-one (62.31%) patients belong to lower class, 44(33.85%) middle and 5(3.85%) were from upper socio-economic class in this study. Seventy-two patients (55.38%) had suicidal attempt. Analyzed data presented that there is no association between age groups, gender and duration of disease with suicidal attempts, while there was significant association between socio economic class status and suicidal attempts.

**Conclusion:** The suicidal attempts are highly prevalent in patients with major depressive disorders as they have better understanding skills. Hence patients with major depressive disorders must be followed up regularly and they must have their psychotherapy to minimize the risks of suicidal attempts.

**Keywords:** Depressive disorder, complication, suicide, brain disorders

### **Introduction:**

Suicide is a leading cause of death worldwide, accounting for an estimated 800,000 fatalities per year <sup>(1)</sup>. The World Health Organization reports that 10.5 per 100,000 people commit suicide, with 15.0 males and 8.0 women making up the total; 79% of these deaths occur in developing nations <sup>(1)</sup>. Suicidal behaviors can be triggered by a variety of circumstances, including a person's demographics, family dynamics, a history of suicidal thoughts or attempts, trauma, negative life events, cultural or genetic expectations, and failures in past attempts <sup>(2,3)</sup>. Research suggests that depression is associated with an increased risk of suicide thoughts and actions <sup>(4)</sup>. Roughly 350 million people across the globe suffer from major depressive disorder (MDD) <sup>(5)</sup>. An estimated 31% of people with MDD have attempted suicide <sup>(6)</sup>. Multiple recent national and international research comparing the suicidality spectrum and mental diseases have found that people with MDD have a much greater rate of suicide attempts <sup>(7,6,8)</sup>. There is a significant rate of suicide attempts in major depressive disorder <sup>(9)</sup>, which may be caused by delusions, depression, hopelessness, poor self-esteem, and insomnia. alcoholism, suicidal ideation, or any mental illness <sup>(10-11)</sup>. To reduce the risk of suicides, early screening, rapid diagnosis, and treatment adherence are necessary in psychiatric patients with MDD because long-term untreated MDD has negative outcomes. The purpose of this study was, therefore, to quantify the prevalence of suicide ideation and behavior among those who present with severe depression.

### **Methodology:**

The psychiatry department of Bolan Medical Complex hospital in Quetta was the site of this cross-sectional study, which lasted from 13-06-2014 to 15-06-2015 and was approved by the hospital's Ethical Review Board. Using the World Health Organization's (WHO) calculator, we determined that 130 patients would make up our sample, with a 95% confidence level, a 9% absolute precision, and a 41.7% population percentage. A technique called Non-Probability Consecutive Sampling was employed. This study included both male and female patients with a diagnosis of major depressive illness and ages ranging from 15 to 40 years. Conditions such as suicidal thoughts when using substances, schizophrenia, anorexia nervosa, OCD, borderline personality disorder, chronic pain, somatization disorder, and temporal lobe epilepsy were listed as exclusion criteria. Furthermore, postpartum depression, depression caused by a medical condition, and suicidal thoughts were also not included. The study included all patients who met the inclusion criteria. The final diagnosis is based on the criteria for major depressive disorder as outlined in the International Classification of Diseases, Tenth Edition (ICD-10). This is achieved after collecting detailed patient histories and conducting comprehensive mental health examinations. Two specialist psychiatrists reached the conclusion that the patient was depressed and had attempted suicide. In order to determine the severity of the depressive condition, the HAM-D rating scale for depression, version 17, was used. The scale ranges from 0–7, meaning no depression at all, to 8–17, meaning moderate depression, and 26+, meaning severe depression. To rule out the aforementioned exclusion criteria, lab tests were conducted on each patient's baseline examination and blood sample first thing in the morning. Suicide frequency was evaluated and patients with depression and a history of suicide attempts were given the appropriate Performa.

### Operational definitions:

#### Depression

Sadness, lack of interest or pleasure, and energy issues are typical symptoms of depression, a prevalent mental condition according to ICD-10. Reduced concentration and attention, low self-esteem and confidence, feelings of guilt and unworthiness, negative and gloomy outlooks on the future, thoughts or actions of self-harm or suicide, poor sleep, and decreased appetite are other hallmark symptoms.

#### Suicide attempt

Deaths caused by patients attempting suicide include: poisoning, suicide jumping, suffocation, drowning, firearms, electrocution, hypothermia, car accidents, pesticides, overdose of drugs (prescribed or otherwise), starvation, immolation, dehydration, carbon monoxide, and other poisons.

#### Statistical Analyses:

We used SPSS software, version 23, to analyse the data. For each demographic, we determined the average and standard deviation of age, HAM-D score, and depression duration. The outcome variable, suicide attempt (yes/no), gender, and socioeconomic position were all given a frequency and percentage. To control for potential confounding factors, we stratified participants according to age, gender, length of complaint, and socioeconomic position; then, we used a chi-square test to examine the relationships between these variables and the outcomes. It is considered significant when the p-value is less than or equal to 0.05.

### Results:

The mean age of patients was  $28.52 \pm 7.80$  years with age range of [15 to 40 years]. According to age groups there 53(40.77%) patients who were 15-25 years of age and rest of 77(59.23%) were 26-40 of age. In this study there were 58(44.62%) male and 72(55.38%) were female patients. The male to female ratio was 1: 1.24. Mean duration of patients was  $3.31 \pm 1.467$  years with minimum and maximum duration 1 and 6 years (Table 1).

**Table 1 BASELINE DEMOGRAPHIC CHARACTERISTICS**

VARIABLE	TOTAL NO OF SUBJECTS	PERCENTAGE
<b>Age</b>		
15-25 years	53	40.77%
26-40 years	77	59.23%
<b>Gender</b>		
Male	58	44.62%
Female	72	55.38%
<b>Duration of disease</b>		
1-3 years	73	56.15
4-6 years	57	43.85
<b>Socioeconomic class</b>		
Low	5	3.85%
Middle	44	33.85%
Upper	5	3.8%
<b>Suicidal attempts</b>		
Yes	72	55.38%
No	58	44.62%

On Applying Ch-square test it was found that there was no statistically significant association between age groups and suicidal attempts, p-value > 0.05. Although in this female were more when

compared to number of male patients but there was no significant association between suicidal attempts and gender,  $p$ -value  $> 0.05$ , i.e. in patients with suicidal attempts there 29(40.3%) male and 43(59.7%) were female patients. There were 36 (50%) patients who had suicidal attempts and had 1-3 years of duration of disease and 50% had 4-6 years of duration of disease and had suicidal attempts, so there was no significant association between suicidal attempts and duration of disease,  $p$ -value  $> 0.05$ . Among patients who had suicidal attempts, 23(31.0%) belonged to lower socio-economic class, 44(61.1%) were middle and 5(6.9%) patients had upper socio-economic class status, there was significant association between socio economic class status and suicidal attempts. (Table 2)

**TABLE 2 COMPARISON OF SUCIDAL ATTEMPTS IN RELATION TO BASELINE CHARACTERSTICS**

Baseline characters	Suicidal Attempts		P-value
	YES	NO	
<b>Gender</b>			0.268
Male	40.3%	50%	
Female	59.7%	50%	
<b>Age</b>			0.118
15-25	34.7%	48.3%	
26-40	65.3%	51.7%	
<b>Duration of disease</b>			0.115
1-3 years	50%	63%	
4-6 years	50%	36.2%	
<b>Socioeconomic Class</b>			$< 0.001$
Low	31.9%	100%	
Middle	61.1%	0%	
Upper	6.9%	0%	

## Discussion

This research looks at how often people with major depressive disorder (MDD) have attempted suicide. Typically linked with significant symptom intensity and role impairment, MDD is a prevalent condition that affects a large portion of the population. Individuals suffering from severe depressive illnesses are significantly more likely to attempt suicide, according to our findings. Our study had a female preponderance and an average age of  $28.52 \pm 7.80$  years for the participants. A gender ratio of 16:1 (male: female) was recorded in one study, suggesting that men are more prone to suicide <sup>(12)</sup>. In terms of the presence of suicidal intentions, another study from Pakistan and one from China found no differences between male and female patients <sup>(13, 14)</sup>. Recent research has shown that the suicide rate in late adolescence is approximately 66%, with a rate of 48.5% for young girls and 51.5% for young boys. Many factors, including substance abuse, unhealthy relationships, and social isolation, contribute to this alarming trend. The average length of time that patients had depressive disorders was  $3.31 \pm 1.467$  years in this study. Most of the patients are from lower-class backgrounds, with a smaller percentage from middle-class and higher-class families. A significant portion of the patients in our study, specifically 72 individuals (55.38%), attempted suicide. Researchers in India found that 16.6% of those who had suicide thoughts really tried to take their own lives. According to statistical analysis, those younger than 30 years old had a higher likelihood of attempting suicide <sup>(15)</sup>. When comparing this study to the current one, we found that the former had stronger results; furthermore, we discovered that while socioeconomic

class was significantly associated with suicidal attempts, gender and duration of illness were not. Several factors may contribute to the elevated suicide ideation in MDD. The risk of SA may be increased, either directly or indirectly, by feelings of hopelessness or worthlessness, sleep difficulties, anxiety, delusional ideas, or depression. Furthermore, the risk of suicidality may be heightened by psychosocial factors linked to MDD, such as the disruption of marital and family connections <sup>(16, 17)</sup>. The presence of various mental and physical health issues is known as comorbidity, and it can be observed in episodes of major depression. A significant depressive disorder will develop in around 20-25% of people with a persistent general medical problem. Eating disorders, substance abuse disorders, panic disorders, and OCD are common comorbid conditions. Dysthymic disorder is present in as many as 25% of patients with major depressive episodes. Clinicians continue to face the problem of preventing suicide and attempts. At least one suicide attempt has been made by approximately 5% of the community <sup>(18, 19)</sup>. Patients with MDD are significantly more likely to engage in suicidal behaviors. Suicide claims the lives of 2%-15% of people with mood disorders; this number rises to 15%-20% among those with a history of hospitalization for mood disorders. <sup>(20)</sup>. Mental health providers can help MDD patients change their behavior by creating a management plan that includes suicide prevention strategies and open lines of communication. Inadequate treatment is a major worry, even if there has been a promising uptick in therapy recently. Improving the quality of treatment should be prioritized alongside screening and treatment expansion.

#### **Suggestions:**

It is also important to conduct regular screening targeting suicidality and risk factors in MDD.

#### **Limitations:**

This is a single center study with a small number of participants. Also, the possibility of recalling bias about suicidality could not be excluded.

#### **Recommendations**

Government and all the stakeholders will take some better steps to prevent suicide and such some positive ways for arrange trainings and sessions in the community for reducing stigma against Suicide and Mental Health as the community in need for these kinds of sessions and trainings by qualified psychiatrist/Psychologists.

**Conclusion:** People who suffer from severe depression are more likely to attempt suicide. Therefore, in order to reduce the likelihood of suicide attempts, individuals with significant depressive disorders need to attend psychotherapy sessions and have frequent follow-up appointments.

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