



## Assessment of Suicidality among Patient with Major depressive Disorder in Sulimania City: A Cross-sectional Analysis

Faridoon Ismael Qadir ; Diyar Hussein Taher

psychiatric. Department of psychiatric, College of Medicine, Hawler medical university, Erbil-Iraq

E-mail: [faridoonzangana@gmail.com](mailto:faridoonzangana@gmail.com)

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### Abstract

**Background:** Individuals diagnosed through depression exhibit a significantly elevated death rate attributed to suicide. Suicidal thoughts can lead to both suicide and suicide attempts; however, these thoughts frequently go unnoticed. suicidality is the sunshade term for suicidal ideation, plans, and acts.

**Objectives:** to assess suicidality among outpatients with major depressive disorders.

**Methods:** An institution-based cross-sectional descriptive-analytic study was conducted in 2025. A whole 126 persons with suicidality along with major depressive disorder were assessed using face-to-face interviews, and they gave informed consent. This included the socio demographic and past psychiatric characteristics, the Beck Suicidal Ideation Scale, and the Beck Depression Inventory Scale. The numbers were investigated using SPSS version 22, and Fisher's exact test and independent t-tests were used to associate two means.

**Results:** Of the 126 patients with suicidality along with major depressive disorder, 45.2% had moderate suicidal ideation, and 26.3% of the samples had severe suicidal ideation. The prevalence of suicidal attempts was 54.6% and suicidal plans 59.5%. Significant associations were found between suicidality and major depressive disorder.

**Conclusion:** The present research demonstrates clearly that there are high prevalence rates of moderate to severe suicidal ideation, suicidal planning, and suicide efforts in individuals suffering from major depressive disorder. The research indicates that as depression intensity rises, so fixes the suicidality ratio.

**Keywords:** *suicidal thoughts suicidal plan suicidal attempt major depressive disorder*

### Introduction

Clinical depression has emerged as one of the most common psychological health conditions, touching around 21% of the population and impacting an estimated 350 million individuals worldwide (Al-Ma`ani, 2015). Suicide is an intentional act to end one's life, which ultimately results in death. Suicidality encompasses suicidal thoughts, plans, and behaviors; MDD presents a challenge as a health condition across all stages of life (Gómez Maquet et al., 2020). Suicide is a main community

well-being concern worldwide in the twenty-first century. The World Health Organization (WHO) estimates that annually, over 700,000 individuals take their own lives. In Iraq, the suicide rate has been assessed at 1.7 per 100,000 people (Younis and Lafta, 2023). According to Cai et al. (2021) over half of the elderly individuals experienced depression accompanied by a sense of impossibility, which is a significant hazard feature for suicidal thoughts. Negative automatic thoughts have been identified as a significant intermediary in the connection among unhappiness and suicidal performance (Min Wai et al., 2014). According to Reutfors et al. (2019), more than 90% of the probability of suicide was linked to the ultimate outcome of psychiatric disorders, particularly major depressive illness. Patients with major depressive disorder have a greater risk of suicidality.

For major depressive disorder, it is important to screen carefully and provide appropriate interventions for suicide attempts. (Dong et al., 2018) At a single extreme of the continuum are actions like ideation without exact strategies, which may develop into a plan for some persons. On the opposite end of the continuum, for a very small proportion of people, this advances to a finished suicide attempt with high lethality. As part of the World Mental Health Reviews, data from 17 countries and determined that the overall sample presented period incidence rates of suicidal ideation, planning, and attempts at 9.2%, 3.1%, and 2.7%, respectively. Moreover, the estimated prevalence of suicide risk spans from 5% to 8% among various mental disorders, including but not limited to depression, alcoholism, and schizophrenia (Brådvik, 2018).

According to Younis and Lafta (2023), suicidal thoughts, attempts, and completions can be affected by various socio-demographic, psychological, and environmental factors. Although suicidal ideation can lead to suicide and suicide attempts, it frequently goes unnoticed (Abdulkarim, 2021). Other types of suicidality, apart from complete suicide, are also commonly observed in persons with major depressive disorder. A recent meta-analysis, for example, showed that 31% of persons with major depressive disorder had made a suicide attempt, whereas the rate of suicidal thoughts was 53.1% (Dong et al., 2018).

#### Aim of study

The aim of this study is to assess the prevalence and severity of suicidality among patients diagnosed with major depressive disorder (MDD) in Sulaimani and to examine associated socio demographic and clinical factors.

## Materials and Methods

### Study Design:

This research utilized an institution-based cross-sectional descriptive-analytic design to evaluate the suicidality of patients with major depressive disorder at the Shahid Dr. Heamn psychiatric hospital in Sulaimani, located in Iraq's Kurdistan region. In 2025, a study was carried out that examined how widespread suicidality is among patients with major depressive disorder. The study also aimed to establish the connections among these suicidality conditions and depressive disorder.

### Setting of the study

The study took place in Sulaimani, located in the Kurdistan Region of Iraq, and involved individuals who had experienced suicidality among patients with major depressive disorder. Data collection is conducted at Psychiatric Hospital Shahid Dr. Heamn in Sulaimani. The psychiatric hospital provides mental health treatment services to community clients with psychiatric disorders. Most of the patients attending the hospital have already been diagnosed by a consultant psychiatrist. Approximately more than forty clients with different mental disorders are attending the hospital for follow-up and treatment on Sundays, Mondays, and Wednesdays.

### Methods of data collection: -

This study used the direct interview technique with the patients. Required data were gathered through a constructed questionnaire. The questionnaire was conducted through face-to-face interviews. The questionnaire was carried out on paper by going to the mentioned psychiatric hospital. It takes an average of 30 minutes to respond to the questionnaire. The questionnaire comprises demographic data, psychiatric history, Beck suicidal ideation, and Beck depression inventory.

### Sample Size for the Study:

G-power was used to calculate the study. Out of the 136 initially selected instances, 10 were removed. The study focused on 126 patients in Sulaimani as a result. Due to its importance for the research's psychiatric focus, we opted for Psychiatric Hospital Shahid Dr. Heamn in Sulaimani. This sampling strategy aims to balance the constraints of time and resources with methodological validity.

### The study Sample:

A purposive sampling technique was utilized size of 126 patients with major depressive disorder. The sample was recruited from consecutive patients attending the psychiatric hospital.

Patients were selected based on the following inclusion and exclusion criteria.

#### Inclusion Criteria

The age of the participants should be  $\geq 18$  years.

Patients are already diagnosed with major depressive disorder by Consultant psychiatrists in the clinic.

Patients who were on drug treatment adherence.

Males and females 'patients.

#### Exclusion criteria

Patients who have a diagnosis of major depressive disorder associated with drug and alcohol abuse and other severe medical diseases.

Pregnant patients or in per partum onset.

People who refused to participate.

#### Data Collection Tools

The tools used for data collection consisted of three parts:

The first portion focused on socio-demographic data such as age, gender, marital status, educational level, occupation, income status, and residential location.

The Beck Suicide Ideation Checklist was used in the second segment to assess degrees of suicidal thought. This scale consists of 19 items, each assessed on a 3-point Likert scale (0-2). The overall scale went from 0 to 38. The level of ideation is classified into three classes: mild (0-12), which shows broad active thoughts; moderate (13-25), which shows that there are active suicidal thoughts without a deliberate plan involving any method; and severe (26-38), indicating that there is an active ideation plan.

In the third segment, the severity of depression was evaluated with the help of the Inventory for Depression by Beck. This assessment consists of 21 multiple-choice items that examine primary signs of sadness using a 4-point rating scale; based on their intensity, items are given ratings from zero to three, with the assumption that they generate a mark that linearly spans from 0 to 63. The strategies' intensity scores are comprised. Depression is classified into four levels: minimal (0-9), mild (10-18), moderate (19-29), and severe (30-63).

#### Statistical Analysis:

The data collected were entered into SPSS version 22 for analysis. The outcomes were displayed in tables that illustrated the frequency and percentage distribution of participants among various subgroups. The relationship between different variables and suicidality status was examined using cross-tabulation analysis. Fisher's exact test was used when the expected count of more than 20% of the cells of the table was less than five; two independent samples were analyzed with the T-test to compare means. There is a certain set of probability levels to determine the significance of the test of P-value as: No significance  $P > 0.05$ ; Significance  $P < 0.05$ ; Highly significant  $p < 0.0$ .

## Results

**Table 1: Characteristics of the studied sample based on socio -demographics.**

Characteristics	Frequency	Percentage	p-value
Age		Mean (+_SD) 38.7( ± 12.4)	
18-30 Years	34	27.0	0.005
31-45 Years	60	47.6	
46-60 Years	22	17.5	
61-75 Years	10	7.9	
Gender			
Male	31	24.6	0.261
Female	95	75.4	
Marital status			
Single	23	18.3	0.011
Married	73	57.9	
Divorce	14	11.1	
Widow/widower	7	5.6	
Separated	9	7.1	
Educational level			
Illiterate	19	15.1	
Read & write	21	16.7	
Primary school	37	29.4	

Secondary school	32	25.4	0.003
Institute & university	17	13.5	
Occupational status			
Governmental Employee	18	14.3	0.002
Private employee	20	15.9	
Self-employee	21	16.7	
Unemployed	30	23.8	
Retired	8	6.3	
Outwork	29	23.0	
Income status			
Sufficient	14	11.1	0.232
Barley sufficient	69	54.8	
Insufficient	43	34.1	
Residential area			
Urban	77	61.1	0.124
Suburban	35	27.8	
Rural	14	11.1	
Total	126	100.0	

\*By Fisher's exact test. \*By t-test of two independent samples.

The results in a table (1) show that the total number of studied patients was 126. Their mean age  $\pm$  was 38.7 years, SD  $\pm$  12.4, and the median was 37 years. Table (1) shows that 47.6% of the patients were aged 31-45 years old, and more than half (75%) were females. The largest proportion (57.9%) of the patients were married and graduated from primary school (29.4%) and (15.1%) were illiterate. A considerable proportion (23.8%) of the patients were unemployed, and income was barely sufficient for (54.8%) of the patients. Regarding residency, (61.1%) were living in urban areas.

Table 2: The asses of the suicidality status among patients with major depressive disorder.

Characteristics	Frequency	Percentage	p-value
Suicidal ideation levels			
Mild	36	28.5	0.003 HS
Moderate	57	45.2	
Sever	33	26.3	
Suicidal attempted	126	100.0	0.002 HS
Yes	69	54.8	
No	57	45.2	
Suicidal plan	126	100.0	0.008 HS
Yes	75	59.5	
No	51	40.5	
Total	126	100.0	

\*By Fisher's exact test. HS: high significant S: significant NS: no significant.

Table (2) shows a highly significant association between suicidality statuses amongst patients with major depressive disorder in the studied sample. Suicidal thoughts ( $p = 0.003$ ), suicide attempts ( $p = 0.002$ ), and suicidal planning ( $p=0.008$ ).

Table (3) The Association among beck depressive inventory severity levels and suicidality status of the studied.

Characteristics	Beck depressive inventory severity levels								
	Minimal- Mild depression		Moderate depression		Severe depression		Total		p-value
	NO.	%	NO.	%	NO.	%	NO.	%	
Level of Suicidal ideation									
Mild	9	47.4	10	52.6	0	0.00	19	100.0	0.001 HS
Moderate	8	15.1	34	64.2	11	20.7	53	100.0	
Sever	10	18.6	30	55.6	14	25.8	54	100.0	
Total	27	21.5	74	58.7	25	19.8	126	100.0	
Suicidal attempt.									
Yes	9	13.0	46	66.7	14	20.3	69	100.0	0.007 S
No	18	31.6	28	49.1	11	19.3	57	100.0	
Total	27	21.5	74	58.7	25	19.8	126	100.0	
Suicidal Plan									
Yes	15	20.0	45	60.0	15	20.0	75	100.0	0.257 NS
No	12	23.5	29	56.9	10	19.6	51	100.0	
Total	27	21.4	74	58.8	25	19.8	126	100.0	

\*By Fisher's exact test. HS: high significant S: significant NS: no significant.

As shown in Table 3, among a sample of 126 suicidal patients, 64.2% exhibit moderate levels of suicidal ideation, while 66.7% show signs of moderate depression and suicidal attempts; this group constitutes 60.0% of the sample. Patients exhibit suicidal plans and moderate depressive symptoms, while 20% show severe depressive symptoms.

## DISCUSSION

Depression and suicidality are closely associated. We assessed the suicidality status among patients with severe depressive disorder. In this study, results show that patients' mean age was 32.4 ( $\pm 8.2$ ) years, more than half were married, they had low education levels, and most of them were unemployed. These findings are similar to the result of the study done by Yousafzai and Siddiqi (2007) in Pakistan, who found that patients with major depressive disorder attending outpatient psychiatric clinics were in their middle thirties, mostly married with low educational status. The findings of this study, confirmed by Fortinash and Warret (2012), noted that, although the most frequent age of onset for major depressive disorder is between 25 and 44 years, it may possibly occur in the early twenties or at age 55 or over. Our findings differ from those of Hawton et al. (2013).

Moreover, it is consistent with results from studies carried out in Erbil City, Iraqi Kurdistan, which revealed that 64% of 100 outpatient depression patients aged 18 to 85 had experienced suicidal ideation. Steer et al. (1999) found no link between marital status and suicide attempts; however, they align with Chan et al.'s findings, which suggested that those who had experienced marital separation were more likely to attempt suicide (Manoranjitham et al., 2007).

In this sample, results show that 75.4% were female. The predominance of the female gender in this study is close to the result of Paans et al. (2018), who found that two-thirds of patients with major depressive disorder and co-occurring disorders were female in the Netherlands. Females with major depressive disorder exhibited a higher likelihood of suicide compared to males, and suicidal behaviors were associated with suicidal ideation, attempts, and deaths by suicide. Suicidal thoughts and attempts were associated with stressful life events and adverse family circumstances. (Li et al., 2022)

Furthermore, psychosocial elements linked to MDD, like the breakdown of marital and familial relationships, may heighten the risk of suicidality (Omary, 2020). Suicidality is a continuum that encompasses suicidal thoughts, plans, attempts, and completions. (Park et al., 2016) Main risk factors for suicidality, mainly regarding completed suicide. In major depressive disorder, severe depressive and psychotic signs are included (Witte et al., 2009). Determining the hazard factors related to suicidal thoughts and attempts can be essential for developing effective suicide prevention policies and initiatives. (Dendup et al., 2020).

The results illustrate that the prevalence of suicidality among those with major depressive disorder is moderate suicidal ideation (59.5%), suicidal plans (54.8%), and suicidal attempted. The prevalence

of moderate suicidal ideation among our patients diagnosed with major depressive disorder was found to be 56.7%. This outcome exceeded that of the general population, derived from the WHO's community surveys conducted in 21 countries (n > 100,000 individuals), which showed a lifetime prevalence of 9%. (Nock et al., 2008) Another cross-sectional study demonstrated that among individuals who have had suicidal thoughts at some time in their lives, the probability of having formulated a plan is roughly 33%. (Saeed, 2017) From a clinical psychiatric perspective, the level of suicidal ideation observed in this study aligns with findings from other research conducted in Helsinki, Finland, which indicated that 60% of 806 depressed in-and-out patients exhibited moderate suicidal ideation.

Furthermore, according to Al-Maani (2015), which reported the severity of suicidal ideation as a significant risk factor for suicide attempts,. Moreover, another study conducted in Sulaimani City, Kurdistan, Iraq, found that participants with a history of suicide attempts had a high incidence of suicidal ideation; thus, the previous attempts, if not managed, probably will lead to more aggressive actions (Abdulkarim and Muhsin, 2021).

### **Conclusions:**

The current study's findings revealed that patients with major depressive disorder exhibited moderate levels of suicidal ideation; most of the patients had suicidal planning and attempts at rates that were unexpected. The results validate that a majority of female patients had suicidal thoughts. There is a strong connection between severe suicidal thoughts, extreme depression, and suicide attempts. Moreover, this research highlights that the severity of suicidality increases in conjunction with the intensity of depression.

### **Ethical Considerations:**

On August 22, 2024, the College of Nursing at Hawler Medical University provided ethical approval for this study, documented under number 2433. The principal investigator outlined the study's aims, methods, and potential advantages to prospective participants and patients to ensure they were completely aware of their rights, including the option to withdraw at any time. While written or informal verbal consent was received from patients before starting the interview by signing the informed consent.

### Recommendation:

Patients suffering from major depressive disorder need regular monitoring and psychiatric services. To ensure safety, enhance awareness, and promote proper reporting, collaboration among media outlets and suicide prevention organizations is essential. Moreover, they should initiate campaigns that highlight the importance of ethical media coverage and work to reduce the stigma associated with seeking mental health treatment.

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### Conflicts of Interest

The authors declare that there are no conflicts of interest related to this work.

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