

# Relationship Between Depression and Quality of Life Among Bipolar Affective Disorder (BPAD) Patients at a Tertiary Care Hospital, West Bengal, India.

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## Abstract

### Introduction:

Bipolar Affective Disorder (BPAD) is a serious and long-lasting mental illness marked by episodes of mania and depression. Even when patients are in remission, depressive symptoms often persist and can greatly reduce their quality of life (QOL). Understanding this relationship is important for improving overall patient care and outcomes.

### Materials and Methods:

This cross-sectional study was conducted in the Psychiatry Department of MCH, Kolkata, from April to December 2024. A total of 180 BPAD patients aged 18–65 years, all in remission, were selected through simple random sampling technique. Data were collected using a socio-demographic questionnaire, WHOQOL-BREF (26 items), and Hamilton Depression Rating Scale (17 items). Analysis was performed using SPSS (2016 version).

### Results:

Residual depression was common: 51% of patients had mild depression, 47.7% moderate, and 1.11% severe. Quality of life scores showed 16.11% with poor QOL, 81.11% with average QOL, and only 2.77% with good QOL. A moderate negative correlation was found between depression and QOL, indicating that greater depression was linked to poorer life quality. Religion, residence, occupation, and medication discontinuation were significantly associated with depression, while age, gender, and occupation influenced QOL.

### Conclusion:

Even during remission, many BPAD patients experience depression that impacts daily living and overall wellbeing. Addressing socio-demographic factors and ensuring treatment adherence are crucial for improving their quality of life.

**Keywords:** Bipolar Affective disorder, Quality of Life, Depression.

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## Introduction

Bipolar Affective disorder (BPAD) is a chronic, severe, and disabling mood disorder characterized by alternating episodes of mania and depression. It significantly impairs daily functioning, cognition, and overall quality of life (QOL). In India, the lifetime prevalence of BPAD is about 0.5%, with a slightly higher rate in males (0.6%) than females (0.4%)<sup>1</sup>

The depressive phase is particularly common in both Bipolar I and II disorders and is marked by persistent low mood, loss of energy, lack of interest, poor sleep and appetite, low self-esteem, and feelings of guilt or worthlessness. BPAD is recognized as one of the leading global causes of disability, affecting work, family, and social life<sup>2-4</sup>

Quality of life (QoL) reflects an individual's perception of physical, psychological, and social well-being.<sup>5</sup> Enhancing QoL in BPA Dpatients is crucial, as it indicates overall functioning and well-being<sup>6,7</sup> Research consistently shows that depressive symptoms are strongly linked to reduced QoL in BPAD<sup>8-10</sup>

Globally, BPAD affects around 1% of the population and is associated with premature mortality, increased suicide risk, and higher rates of comorbid anxiety and substance use disorders. Patients often remain symptomatic for nearly half their lives, with depressive episodes being particularly disabling and long-lasting<sup>11</sup>. Even during symptom-free periods, individuals with BPAD experience lower QOL compared to healthy individuals, with impairments in mood regulation, cognition, sleep, social functioning, and occupational performance<sup>12</sup>

Overall, Bipolar Affective disorder profoundly impacts multiple aspects of life, emphasizing the need for comprehensive management strategies aimed at improving both symptom control and quality of life.

WHOQOL-BREF is a globally validated and cross-culturally applicable holistic instrument to assess QoL<sup>17</sup>. It is organized into four domains regarding specific aspects of QoL related to: I) physical health; II) psychological health; III) social relationships; and IV) environment.

Although broad and highly subjective, recent evidence in mental health points to QoL as an

important indicator of patients' well-being<sup>19</sup>; thus, its assessment could be of great value to better understanding the patients' health and decide among possible treatments<sup>13</sup>.

Patients with bipolar disorder spend approximately half their life-time symptomatic<sup>11</sup>, with syndrome or sub-syndrome symptoms, greatly affecting their quality of life<sup>2</sup>. Depressive symptoms are particularly disabling and long-lasting, making patients unable to act properly in home and workplace for approximately 30% of their lives<sup>16</sup>. These also have a significant effect on severity and prognosis of the disease. Presence of Depressive symptoms also cause a significant impact on the quality of life (QOL) of patients with BPAD, and predict even worse outcomes in a variety of prognostic and severity indicators.

**Operational Definition:** Remission was defined as the absence of clinically significant symptoms of both mania and depression for at least two months. For assessment, a Young Mania Rating Scale (YMRS) score of  $\leq 12$  was used to indicate minimal or no manic symptoms, and a Hamilton Depression Rating Scale (HAM-D17) score of  $\leq 7$  was used to indicate minimal or no depressive symptoms

## Materials and Methods

- Study Participants
- The study included patients diagnosed with Bipolar Affective Disorder (BPAD) attending a tertiary care hospital from April 2024 to December 2024, recruited using a random sampling technique.

### Inclusion Criteria:

- Diagnosed with BPAD for at least one year
- Age 18–65 years
- Able to understand Bengali, Hindi, or English
- Willing to participate and provide informed consent
- Exclusion Criteria:
- Pregnant women
- Newly diagnosed cases
- Presence of severe medical comorbidities

### Study Instrument:

Data were collected using three instruments: a semi-structured sociodemographic questionnaire, the WHOQOL-BREF (26 items) for assessing quality of life, and the Hamilton Depression Rating Scale (HDRS, 17 items) for evaluating depression in BPAD patients.

The sociodemographic questionnaire was divided into two parts:

Part I: Personal and social information, including age, sex, religion, education, marital status, occupation, monthly family income, and residence.

Part II: Clinical information, including duration of illness, family history of mood disorders, number of recurrences, type of medication, history of substance use, prior hospitalizations, and treatment adherence (yes/no).

Bengali versions of the WHOQOL-BREF and HDRS were adopted from previously validated published literature.

### Data Collection:

Ethical Approval: Ethics committee approval was taken from MCH, Kolkata Ref No MC/KOL/IEC/NON-SPON/657/03/2020 DATED 12/03/2020.

Informed Consent was taken from the subjects by informing the nature and purpose of the study, and the participants did not get financial benefits from this study. The present study posed a very low risk to the participants.

### Study Design and Population

This study was conducted as part of a PhD research project and included patients diagnosed with Bipolar Affective Disorder (BPAD) who were currently in remission. Patients attending the clinic and meeting the inclusion criteria on each clinic day were invited to participate. The purpose and nature of the study were explained, and written informed consent was obtained from all participants.

### Data Collection Procedure

Data collection began with participants completing a sociodemographic questionnaire

and the WHOQOL-BREF to assess quality of life. Subsequently, the Hamilton Depression Rating Scale (HDRS) was administered by the investigator to evaluate the severity of depressive symptoms. This approach ensured the systematic collection of both self-reported and clinically assessed data.

### Statistical Analysis

Sociodemographic data were analyzed using descriptive statistics. Multiple logistic regression analyses were performed to examine associations between the severity of depression and sociodemographic variables. Additionally, domain-wise quality of life (QOL) scores were compared with depression scores. The level of statistical significance was set at  $p < 0.05$ .

## Result & Analysis

**Table I: Demographics and clinical characteristics of Bipolar Affective Disorder patients n=180**

Sl no	characteristics	Variables	n(%)
1.	Age	• 18-25 yrs	22(12.22)
		• 25-35 yrs	44(24.44)
		• 35-45 yrs	56(31.11)
		• 45-55yrs	37(20.55)
		• 55-65 yrs	21(11.66)
2.	Sex	Male	91(50.55)
		Female	89(49.44)
3.	Religion	Muslim	108(60)
		Hindu	72(40)
4.	Marital Status	Married	128(71.11)
		Single	39(21.66)
		Widow	9(5)
		Divorce	4(2.22)
5.	Residence	Urban	62(34.44)
		Rural	98(54.44)
		Semi urban	20(11.11)
5.	Occupation	Home maker	75(41.66)
		Labor	61(33.88)
		Self Employed	05(2.77)
		Business	15(8.33)
		Unemployed	24(13.33)
6.	per capita income	<3000	84(46.66)
		3001-5000	75(41.66)
		5001-10000	21(11.66)

Cont...

7.	Duration of illness	1-3 yrs	28(15.55)
		4-6 yrs	67(37.22)
		7-10 yrs	29(16.11)
		<10 yrs	56(31.11)
8.	Diagnosis	BPADI	130(71)
		BPADII	50(27.77)
9.	H/O discontinuation of medicine	yes	132(73.33)
		no	48(26.66)
10.	previously hospitalized	yes	48(26.66)
		no	132(73.33)
11.	No of recurrence/ relapse	1 time	43(23.88)
		2 times	75(41.66)
		3 times	39(21.66)
		4 times	13(7.22)
		5 and above	10(5.55)
12.	Family H/O BPAD	No	64(35.55)
		yes	116(64.44)
13.	Medication regimen	Sodium	68
		valproate	52
		Lithium	29
		Tab	
		Clonazepam	90
		Tab	
	Olanzapine	37	
	Tab AMT		

Table no 1 presents the sociodemographic and clinical profile of the study sample. Among patients with BPAD, 50.55% were male and 49.44% female. The largest age group was 35–45 years (31%), followed by 25–35 years (24%), 18–25 years (12%), and 55–65 years (11%). Most were married (71.11%), with 21.66% single and 5% widowed. By religion, 60% were Muslim and 40% Hindu. In terms of habitat, 54.44% lived in rural areas, 34% urban, and 11% semi-urban. Among females, 41.66% were homemakers, while among males, the main occupations were labor (33.88%), unemployed (13%), and business (8%). Nearly half (46.66%) had a per capita income of less than ₹3000. Regarding clinical characteristics, 37.22% had illness duration of 4–6 years. BPAD-I was diagnosed in 71%, and 73.33% had a history of medication non-compliance. 41.66% had two recurrences, and 64.44% had a family history of BPAD. Treatment regimens included Sodium Valproate (68 patients), Lithium (52), Olanzapine (90), and Amitriptyline (37).

**Table 2. Level of Depression and Quality of Life among Patients with Bipolar Disorder n = 180**

Variable	Category	n	%
Depression Level	Mild	92	51.11
	Moderate	86	47.77
	Severe	2	1.11
Quality of Life (QOL)	Poor	29	16.11
	Average	146	81.11
	Good	5	2.77
Overall QOL Mean	—	—	58.20

Table no 2 represents level of depression among Bipolar Disorder patients. Mild depression 92(51.11%), Moderate depression 86(47.77%), Severe depression 2(1.11%)

This table showed Average QOL(81.11 %), poor quality of life. 16.11(%), good QOL (2.77%). overall QOL mean is 58.20.

**Table 3: Domain wise Mean and SD of QOL Score: n=180**

Sl no	Domain Name	Mean± SD
	psychological	62.05 ±16.66
	Social	58.33± 0
	physical	53.57±14.28
	Environmental	40.62± 6.25

Table no 3 represents domain wise Quality of life of the BPAD patients. 1. Psychological domain mean± SD (62.05 ±16.66) followed by 2. Social domain 58.33± 0 3. Physical domain (53.57±14.28)& 4. Environmental domain 40.62± 6.25

**Table 4: Findings related to correlation between depression and Quality of life of Bipolar Disorder patients:**

Correlations			
		Depression	Quality of life
Depression	Pearson Correlation	1	-.465(.060)
	Sig(2-tailed)		
	N	180	180
Quality of life	Pearson Correlation	-.465(.060)	1
	Sig(2-tailed)		
	N	180	180

Table no 4 depicts moderately negative correlation between depression and Quality of life

of bipolar Disorder patients: Can also be termed as significant negative correlation at 0.05 level.

**Table 5. Association between Quality of Life and Sociodemographic Profile of BPAD Patients (Multiple Logistic Regression) n=180**

Variable	B	SE	df	Sig (p-value)	Interpretation
Age	-0.38	0.023	1	0.096	Not statistically significant
Gender	-1.222	0.703	1	0.082	Trend toward females having better QOL
Marital Status	0.246	0.622	1	0.692	Not significant
Occupation					
Homemaker	1.331	1.031	1	0.970	Not significant
Labor	2.109	0.844	1	0.012	Significant; better QOL than homemakers
Business	0.904	0.690	1	0.190	Not significant

Model fitness: The model explained 31% of the variability in QOL (Nagelkerke  $R^2 = 0.31$ ).

Table 5: Multiple logistic regression analysis examined the association between QOL and sociodemographic factors among BPAD patients. The model explained 31% of the variability in QOL (Nagelkerke  $R^2 = 0.31$ ). Among the predictors, occupation was significantly associated with QOL. Specifically, laborers reported significantly better

QOL than homemakers ( $p = 0.012$ ). Age, gender, marital status, and business occupation were not statistically significant, although there was a trend suggesting that female patients and older age groups may have slightly better QOL. These findings indicate that occupational status plays a key role in the perceived quality of life in patients with BPAD, while other sociodemographic factors have a weaker influence.

**Table no 6: Association between Depression and Sociodemographic Profile of BPAD Patients (Multiple Logistic Regression) n=180**

Variable	B	SE	df	Sig (p-value)	Interpretation
Religion	4.012	1.446	1	0.006	Significant; Hindu patients less depressed than Muslim patients
Residence	3.424	1.240	1	0.006	Significant; Rural patients less depressed than urban patients
Occupation					
Business	0.335	2.428	1	0.890	Not significant
Homemaker	2.773	3.161	1	0.380	Not significant (trend toward higher depression)
Labor	0.106	1.857	1	0.955	Not significant
History of Medication Discontinuation	18.73	47.68	1	0.977	Not significant (trend toward higher depression)

Model Fitness: The model explained 59% of the variability in depression (Nagelkerke  $R^2 = 0.59$ ).

Table 6: Multiple Logistic Regressions (predictor of Depression): presents predictors of depression. Religion (Hindu), residence (rural), occupation (homemaker), and history of medication discontinuation were associated with depression levels. The model explained 59% of depression variability (Nagelkerke  $R^2 = 0.59$ ).

### Discussion

In the present study, 92 (51.11%) patients with bipolar disorder had mild depression, 86 (47.77%) had moderate depression, and 2 (1.11%) had severe depression. A moderate negative correlation was found between depression and quality of life (QOL), indicating that greater depressive symptoms were associated with poorer QOL. Depression levels were significantly associated with religion, habitat, occupation, and medication discontinuation. Similar findings were reported by Chakraborty S., who observed that nearly half of bipolar patients were non-adherent to treatment<sup>13</sup>, and by Tamene et al. in Ethiopia, who identified medication non-adherence as a key predictor of poor outcomes<sup>14</sup>.

The overall mean QOL score was 58.20; 81.11% of participants reported average QOL, 16.11% poor QOL, and 2.77% good QOL. QOL was significantly associated with age, gender, and occupation. Consistent with previous studies, patients with bipolar disorder demonstrated an overall poor QOL<sup>15,16,17</sup> with females showing lower QOL than males. Age and occupation were also significant predictors, aligning with findings by Boyban et al. and Simon et al.<sup>18,19</sup>

Our results support earlier evidence that depressive symptom severity and sociodemographic factors adversely affect QOL and functioning in bipolar disorder<sup>20</sup>. Similarly, systematic reviews by Morton et al. and Michalak et al. found that depressive symptoms were moderately and negatively correlated with QOL<sup>21,22</sup> while Brieger et al. reported reduced QOL across all domains in both unipolar and bipolar groups<sup>23</sup>. Longitudinal findings by Khafif et al. also confirmed that depressive episodes consistently impair QOL over time<sup>24</sup>

**Limitation:** The present study has certain limitations. Data were collected from a single tertiary

care centre, which may not represent all individuals with bipolar disorder. The restricted inclusion and exclusion criteria may limit the generalizability of the findings. As participants were recruited from a medical college hospital, replication in community settings is recommended. Moreover, the cross-sectional design precludes establishing causal relationships between predictor and outcome variables.

### Conclusion

This study's conclusion emphasizes the significant relationship between depression and quality of life (QOL) in patients with Bipolar Affective Disorder (BPAD). The research found a moderately negative correlation between depression and QOL, indicating that as depressive symptoms increase, a patient's QOL tends to decline. A large majority of the studied BPAD patients were found to have depressive symptoms, with over half having mild depression and nearly half having moderate depression. The findings highlight that key factors like age, gender, occupation, and medication adherence are significantly associated with a patient's QOL and depression levels. The study's methodology, which uses validated scales to measure depression and QOL, can be applied in other settings to further explore this relationship. The results provide a crucial foundation for developing targeted interventions to manage depressive symptoms and improve the well-being of BPAD patients.

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