

## Original Research Article

# PSYCHIATRIC COMORBIDITIES AND QUALITY OF LIFE IN BREAST CANCER PATIENTS UNDERGOING TREATMENT: A CROSS-SECTIONAL STUDY

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Received : 03/12/2025  
Received in revised form : 12/01/2026  
Accepted : 31/01/2026

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DOI: 10.70034/ijmedph.2026.1.313

Source of Support: Nil,

Conflict of Interest: None declared

Int J Med Pub Health

2026; 16 (1); 1814-1818

### ABSTRACT

**Background:** Breast cancer is the most common malignancy among women in India, affects not only physical health but also deeply disrupts a woman's sense of femininity, sexuality, and identity. The breast holds strong symbolic significance related to womanhood, body image, and intimate relationships. Despite their substantial impact, psychiatric comorbidities frequently remain underrecognized in oncology settings, adversely affecting treatment adherence and overall quality of life (QOL). This study aimed to estimate the prevalence and pattern of psychiatric comorbidities and to evaluate their association with quality of life among breast cancer patients undergoing active treatment.

**Materials and Methods:** A cross-sectional study was conducted at a tertiary care hospital, from May 2024 to May 2025. A total of 131 histopathologically confirmed female breast cancer patients receiving surgery, chemotherapy, radiotherapy, or combination therapy were enrolled using consecutive sampling. Psychiatric diagnoses were assessed using the Mini International Neuropsychiatric Interview (MINI), and quality of life was evaluated using the WHOQOL-BREF questionnaire. Statistical analysis was performed using SPSS v23, with  $p < 0.05$  considered statistically significant.

**Results:** Psychiatric comorbidity was identified in 56.5% of patients. Generalized Anxiety Disorder (23.7%) and Major Depressive Episode (13.7%) were the most prevalent diagnoses, with notable overlap of anxiety and depressive disorders. Psychiatric comorbidity was significantly associated with lower socioeconomic status, longer duration of illness, advanced cancer stage, combined treatment modalities, and multiple hospitalizations. Patients with psychiatric comorbidities demonstrated significantly poorer quality of life across all WHOQOL-BREF domains—physical, psychological, social, and environmental—compared to those without comorbidity. QOL scores declined progressively with advancing cancer stage and more intensive treatment modalities.

**Conclusion:** The findings underscore that the importance of identifying psychiatric comorbidities in breast cancer patients undergoing various treatment modalities cannot be underestimated. Incorporating routine psychiatric assessment and adopting a holistic, multidisciplinary approach to cancer care can lead to better psychosocial outcomes, improved quality of life, and enhanced overall treatment effectiveness.

**Keywords:** Breast cancer; psychiatric comorbidity; anxiety; depression; quality of life; WHOQOL-BREF.

## INTRODUCTION

Breast cancer is the most common malignancy among women worldwide and represents a major

public health concern in India. Beyond its physical burden, breast cancer profoundly affects psychological well-being and overall quality of life

(QOL). For many women, the breast symbolizes femininity, sexuality, motherhood, and self-identity; therefore, its disease or loss poses a profound threat to a woman's sense of womanhood.<sup>[1-3]</sup>

Diagnosis often evokes intense emotional reactions, including fear, uncertainty, and grief, while treatment-related changes such as mastectomy, chemotherapy-induced alopecia, and fatigue may threaten body image, femininity, sexuality, and self-identity.<sup>[4,5]</sup> These changes are particularly distressing in sociocultural contexts where physical integrity and reproductive identity are closely linked to female self-worth.

Psychiatric disorders such as anxiety, depression, and adjustment disorders are frequently reported among breast cancer patients.<sup>[6,7]</sup> These conditions may impair coping mechanisms, reduce treatment adherence, prolong hospitalization, and negatively influence disease outcomes.<sup>[8]</sup> Despite this, psychological distress often remains under-detected in routine oncology practice, where clinical attention is predominantly directed toward physical symptoms.<sup>[9]</sup>

Quality of life (QOL) has emerged as a crucial outcome measure in oncology, encompassing physical, psychological, social, and environmental dimensions of health.<sup>[10]</sup> Psychiatric morbidity has been consistently associated with poorer QOL among cancer patients; however, data from Indian settings remain limited.<sup>[11,12]</sup>

The present study was undertaken to estimate the prevalence and pattern of psychiatric comorbidities among breast cancer patients undergoing treatment and to examine their association with quality of life and relevant socio-clinical variables.

## MATERIALS AND METHODS

A hospital-based cross-sectional study was conducted at the Rohilkhand Cancer Institute, Rohilkhand Medical College and Hospital, Bareilly, Uttar Pradesh, over a one-year period (May 2024 to May 2025). Ethical clearance was obtained from the

Institutional Ethics Committee. Written informed consent was secured from all participants. Female patients aged  $\geq 18$  years with histopathologically confirmed breast cancer undergoing treatment (surgery, chemotherapy, radiotherapy, or combination therapy) were consecutively recruited from outpatient and inpatient oncology services. Patients with prior psychiatric illness, previous or concurrent malignancy, severe acute medical illness, chronic systemic diseases, or those who were pregnant or lactating were excluded. 131 breast cancer patients were studied according to sample size formula for cross-sectional study in finite population. Form was specifically designed for recording information including person's name, age, sex, education, marital status, religion, occupation, state, socioeconomic status, and the type of family they have and took around 5-10 minutes to fill. Mini-Mental Status Examination (MMSE)<sup>13</sup> to screen cognitive functioning which took approximately 5–10 minutes to complete. Following the screening, patients were assessed for psychiatric disorders using the Mini International Neuropsychiatric Interview (MINI)<sup>14</sup>, a 17-item questionnaire that took approximately 15 minutes to complete. Subsequently, the Quality of Life (QOL) of patients was evaluated using the World Health Organization Quality of Life (WHOQOL-BREF) questionnaire.<sup>15</sup> Overall, the total interview time for the entire study was estimated to be 35–40 minutes per participant. The data collected was coded and entered, its clearing and compiling was done on a Microsoft Excel spreadsheet and then it was imported into statistical packaging for social sciences (SPSS) version 23.0 for statistical analysis.

## RESULTS

A total of 131 female patients with breast cancer undergoing active treatment were included in the study, with a mean age of approximately 48 years. [Table 1]

**Table 1: Comparison of age between groups.**

	Groups		Test value	P value
	with psychiatric comorbidity (N=74)	without psychiatric comorbidity (N= 57)		
Age (Years)	47.3±10.84	45.5±10.62	0.921	0.359

Most patients were middle-aged, with the largest proportion in the 41–50-year age group, followed by those aged 31–40 and 51–60 years. The majority were married and belonged to the Hindu religion. Educational attainment was generally low, with most patients being illiterate or educated up to the primary level, and the majority were unemployed or homemakers. Most patients resided in rural areas, belonged to the upper-lower or lower socioeconomic classes, and reported a nuclear family structure. No

statistically significant association was found between psychiatric comorbidity and age, religion, marital status, education, occupation, place of residence, or family type ( $p > 0.05$ ). However, a significant association was observed with socioeconomic status ( $\chi^2 = 14.815$ ,  $p = 0.002$ ), with higher prevalence of psychiatric morbidity among patients belonging to upper-lower and lower socioeconomic classes [Table 2].

**Table 2: Demographic profile of studied patients between groups**

		Groups		$\chi^2$ value	P value
		with psychiatric comorbidity (N=74)	without psychiatric comorbidity (N= 57)		
Age	< 31	5 (6.8%)	4 (7.0%)	3.209	0.523
	31-40	14 (18.9%)	17 (29.8%)		
	41-50	31 (41.9%)	18 (31.6%)		
	51-60	13 (17.6%)	12 (21.1%)		
	>60	11 (14.9%)	6 (10.5%)		
Religion	Hindu	51 (68.9%)	39 (68.4%)	1.316	0.518
	Muslim	23 (31.1%)	17 (29.8%)		
	Others	0 (0.0%)	1 (1.8%)		
Marital Status	Single	11 (14.9%)	7 (12.3%)	0.181	0.800
	Married	63 (85.1%)	50 (87.7%)		
Education	Illiterate	30 (40.5%)	18 (31.6%)	1.906	0.592
	Primary	20 (27.0%)	21 (36.8%)		
	Middle	13 (17.6%)	11 (19.3%)		
	Secondary	11 (14.9%)	7 (12.3%)		
Occupation	Unemployed	61 (82.4%)	50 (87.7%)	0.696	0.469
	Employed	13 (17.6%)	7 (12.3%)		
Living area	Rural	62 (83.8%)	41 (71.9%)	2.692	0.133
	Urban	12 (16.2%)	16 (28.1%)		
Socioeconomic Status	Upper	0 (0.0%)	0 (0.0%)	14.815	0.002
	Upper Middle	3 (4.1%)	7 (12.3%)		
	Lower Middle	10 (13.5%)	18 (31.5%)		
	Upper Lower	39 (52.7%)	27 (47.4%)		
	Lower	22 (29.7%)	5 (8.8%)		
Family Type	Nuclear	42 (56.8%)	36 (63.2%)	0.548	0.479
	Extended	14 (23.3%)	20 (31.7%)		
Duration of illness	<= 6 months	22 (29.7%)	25 (43.9%)	3.771	0.152
	7 -12 months	43 (58.1%)	29 (50.9%)		
	>1 years	9 (12.2%)	3 (5.3%)		

Patients with psychiatric comorbidity had a significantly longer duration of illness compared to those without comorbidity ( $p = 0.019$ ). A significant association was also found between psychiatric morbidity and treatment modality ( $\chi^2 = 6.340$ ,  $p = 0.042$ ), with the highest prevalence observed among patients receiving combined treatment modalities (surgery with chemotherapy and/or radiotherapy). Cancer stage showed a significant association with psychiatric morbidity ( $\chi^2 = 16.860$ ,  $p = 0.010$ ), with a

greater proportion of psychiatric comorbidity seen in patients with advanced-stage disease, particularly Stage IV (24.3%). Additionally, patients with more than two hospitalizations were significantly more likely to have psychiatric comorbidity compared to those with fewer hospitalizations ( $\chi^2 = 7.269$ ,  $p = 0.009$ ). No significant association was observed with family history or past medical history [Table 3].

**Table 3: Distribution of clinical and treatment profile in between groups**

		Groups		$\chi^2$ value	P value
		with psychiatric comorbidity (N=74)	without psychiatric comorbidity (N= 57)		
Treatment History	Surgery	9 (12.2%)	17 (29.8%)	6.340	0.042
	Chemotherapy	9 (12.2%)	6 (10.5%)		
	Combined	56 (75.7%)	34 (59.6%)		
Stage of cancer	1	7 (9.5%)	8 (14.0%)	16.860	0.010
	2A	13 (17.6%)	8 (14.0%)		
	2B	8 (10.8%)	21 (36.8%)		
	3A	15 (20.3%)	6 (10.5%)		
	3B	9 (12.2%)	3 (5.3%)		
	3C	4 (5.4%)	4 (7.0%)		
	4	18 (24.3%)	7 (12.3%)		
Number of Hospitalization	<2	12 (16.2%)	21 (36.8%)	7.269	0.009
	>2	62 (83.8%)	36 (63.2%)		
Family history	Present	4 (5.4%)	5 (8.8%)	1.291	0.239
	Absent	70 (94.6%)	52 (91.2%)		
Past history	Present	5 (6.8%)	1 (1.8%)	1.844	0.232
	Absent	69 (93.2%)	56 (98.2%)		

Psychiatric comorbidity was identified in 74 patients (56.5%), while 57 patients (43.5%) did not have any diagnosable psychiatric disorder [Table 4].

**Table 4: Prevalence of psychiatric comorbidity in studied patients**

	Frequency (n=131)	Percentage
Present	74	56.5
Absent	57	43.5

Among patients with psychiatric morbidity, Generalized Anxiety Disorder was the most prevalent diagnosis, observed in 31 patients (23.7%), followed by Major Depressive Episode in 18 patients (13.7%). Comorbid psychiatric diagnoses were also noted, with Major Depressive Episode co-occurring with

Generalized Anxiety Disorder in 10 patients (7.6%) and with Panic Disorder in 6 patients (4.6%). Panic Disorder alone was present in 7 patients (5.3%), while Dysthymia was observed in 2 patients (1.5%) [Table 5].

**Table 5: Distribution of psychiatric comorbidities in studied patients**

	Frequency (n=131)	Percentage
Major Depressive episode (A)	18	13.7
Major Depressive episode + Panic disorder (A+E)	6	4.6
Major Depressive episode + Generalized anxiety disorder (A+O)	10	7.6
Dysthymia (B)	2	1.5
Panic disorder (E)	7	5.3
Generalized anxiety disorder (O)	31	23.7

Patients with psychiatric comorbidity demonstrated significantly poorer quality of life across all WHOQOL-BREF domains compared to those without psychiatric morbidity. Mean scores for overall quality of life (G1) and satisfaction with health (G2) were significantly lower in patients with psychiatric comorbidity ( $p < 0.001$ ).

Similarly, domain-wise analysis revealed significantly lower scores in physical health (Domain 1), psychological health (Domain 2), social relationships (Domain 3), and environmental health (Domain 4) among patients with psychiatric comorbidity, with all differences reaching high statistical significance ( $p < 0.001$ ) [Table 6].

**Table 6: Quality of life among cancer patients between groups**

WHOQOL	Groups		Test value	P value
	with psychiatric comorbidity (N=74)	without psychiatric comorbidity (N= 57)		
G1	2.7±0.6	3.2±0.6	-4.512	<0.001
G2	2.2±0.6	2.9±0.8	-6.066	<0.001
Domain 1	43.3±14.7	61.4±7.1	-8.594	<0.001
Domain 2	43.9±11.9	59.3±8.0	-8.340	<0.001
Domain 3	47.2±13.7	60.6±10.4	-6.163	<0.001
Domain 4	50.5±13.2	62.2±8.1	-5.869	<0.001

## DISCUSSION

Breast cancer is a chronic, life-altering illness that imposes a substantial psychological burden on affected women, particularly during the active treatment phase. In recent years, increasing emphasis has been placed on understanding psychiatric morbidity and quality of life as essential components of comprehensive cancer care. The present cross-sectional study was conducted to assess the prevalence and pattern of psychiatric comorbidities and to evaluate their association with quality of life among breast cancer patients undergoing treatment at a tertiary care centre.

In the present study, psychiatric comorbidity was significantly associated with lower socioeconomic status, longer duration of illness, advanced cancer stage, combined treatment modalities, and multiple hospitalizations. These findings are consistent with observations by Gangane et al., who reported poorer psychological outcomes and lower quality of life among patients from disadvantaged socioeconomic backgrounds and those with advanced disease.<sup>[11]</sup>

In the present study, psychiatric comorbidity was identified in 56.5% of breast cancer patients,

indicating that more than half of the study population experienced a diagnosable psychiatric disorder during treatment. This finding is comparable to previous reports documenting psychiatric morbidity rates ranging from 30% to 60% in breast cancer populations. Mir et al. reported high rates of anxiety (73.1%) and depression (60%) among breast cancer patients, emphasizing the substantial psychological burden associated with the disease.<sup>[16]</sup> Similarly, Dadheech et al. observed clinically significant anxiety and depressive symptoms in 33.6% and 37.9% of patients, respectively, particularly among those with advanced-stage disease.<sup>[17]</sup>

In the present study, Generalized Anxiety Disorder emerged as the most prevalent psychiatric diagnosis, followed by Major Depressive Episode. This predominance of anxiety over depression has also been observed by Abraham et al., who suggested that uncertainty regarding prognosis, fear of recurrence, and the demands of ongoing treatment contribute to heightened anxiety during active therapy.<sup>[18]</sup> The coexistence of anxiety and depressive disorders in a subset of patients further highlights the complex and overlapping emotional responses associated with breast cancer.

A key finding of this study is the significant impairment in quality of life among patients with psychiatric comorbidities across all WHOQOL-BREF domains. Similar results have been reported by Purkayastha et al., who found that depression in breast cancer patients was strongly associated with poorer quality of life in physical, psychological, and social domains.<sup>[12]</sup> Internationally, El Kherchi et al. demonstrated that anxiety–depressive syndromes and body image dissatisfaction were closely linked to reduced quality of life among women undergoing breast cancer treatment.<sup>[19]</sup>

Collectively, these findings reinforce the need for routine psychiatric screening and the integration of psychosocial interventions into oncology care. Early identification and management of psychiatric comorbidities may improve quality of life, enhance treatment adherence, and support a holistic, woman-centred approach to breast cancer management.

#### Limitations of the study

The relatively smaller sample size, drawn exclusively from a tertiary referral hospital, may not fully represent the wider population.

This study was conducted in a tertiary care hospital; the findings may not be generalizable to rural or primary care settings with different psychosocial dynamics and resource availability.

### CONCLUSION

Psychiatric comorbidities are highly prevalent among breast cancer patients and are strongly associated with poorer quality of life, advanced disease stage, and intensive treatment modalities. Early identification and integration of psychiatric care into oncology services are essential to improve holistic outcomes for breast cancer patients.

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