

Prevalence and Determinants of Anxiety Disorders among Females with Breast Cancer attending a Tertiary Care Hospital in Jammu

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Abstract

Background: Breast cancer is the leading cause of morbidity and mortality in females worldwide. Anxiety disorders are widely affecting the patients of breast cancer and have a profound effect on the outcome of the disease. **Aims and Objectives:** The current study aimed to estimate the prevalence of the anxiety disorders and to determine the association of various socio-demographic and clinical factors with anxiety disorders among females affected with breast cancer. **Methodology:** The present cross-sectional study was conducted in a tertiary care hospital in Jammu region of UT of J&K. All the females aged 18 years and above and diagnosed cases of breast cancer were eligible for the study. The information about socio-demographic characteristics was collected followed by application of Mini-International Neuropsychiatric Interview (M.I.N.I) to assess anxiety disorders. Data was presented in proportions and chi-square test was applied to find out the statistical significance of association. **Results:** A total of 275 subjects were included in this study, majority (74.2%) of which were in 31-60 years age group. Among the anxiety disorders, prevalence of panic disorders, post-traumatic stress disorder and combination of panic disorder and agoraphobia was reported to be 47.3%, 37.5%, and 22.9%, respectively. PTSD was significantly associated ($p < 0.05$) with rural background while agoraphobia was significantly associated with age and type of family. Agoraphobia alone or in combination with panic disorder was significantly associated with treatment history ($p < 0.05$). **Conclusion:** The results of the current study have revealed that the prevalence of various anxiety disorders in cancer patients is a cause of concern, so the authors recommend that the services of psychiatrists and health counsellors may be provided to them during their treatment for better outcome.

Keywords

Cancer Breast, PTSD, Panic disorder, Agoraphobia.

Introduction

Among the non-communicable diseases, cancer has emerged as a major public health problem in terms of morbidity, mortality and above all human suffering. Breast cancer is the most frequently diagnosed cancer and the

leading cause of death due to cancer among females in the world and is the second most common cancer overall.^[1] Incidence of breast cancer is increasing in the developing world due to increasing life expectancy,

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increase in urbanization and adoption of western lifestyles. Some risk reduction might be achieved with prevention but cannot eliminate the majority of breast cancers that develop in low and middle income countries where breast cancer is diagnosed in very late stages.

Review of studies employing diagnostic criterion and standardized psychiatric interviews to assess anxiety symptoms; frequency of diagnosable anxiety disorders in individuals with cancer has shown the prevalence to range from 10-30%.^[2,3] Anxiety covers a broad spectrum of disorders, which includes panic disorder without agoraphobia, panic disorder with agoraphobia, agoraphobia without history of panic disorder, specific phobia, Social Anxiety Disorder (SAD), Obsessive Compulsive Disorder (OCD), Post Traumatic Stress Disorder (PTSD), acute stress disorder and Generalized Anxiety Disorder (GAD). Each anxiety disorder has a specific definition and symptoms, but all are related to anxiety.^[4] Not only the initial diagnosis of cancer but the ongoing treatment and associated co-morbidities make this disease more traumatic as well as stressful. Few authors have mentioned following impact of breast cancer on the patients: mood disorders (anxiety, depression and anger), lifestyle changes (physical malaise, sexual problems, reduced activity level) and fear (related to mastectomy, body image, recurrence of disease or death).^[5]

During review of literature, it was found that there is a dearth of research regarding anxiety disorders in breast cancer patients in our country in general and in North India in particular. It is in this context that the present study was conducted to fill this gap using a sample of breast cancer patients attending a tertiary care centre in Jammu.

Aims and Objectives

1. To estimate the prevalence of anxiety disorders among females with breast cancer attending the tertiary care centre.
2. To determine the association of various socio-demographic and clinical factors with anxiety disorders among these patients.

Methodology

The present hospital based cross-sectional study was conducted in the Regional Cancer Centre, Department of Radiotherapy, Government Medical College, Jammu. The Department of Radiotherapy in GMC Jammu is well developed, fully functional and caters to a large number of cancer patients. Services rendered here include Radiotherapy, Chemotherapy, Hormone therapies, Out-Patient Department Services, Indoor patient services and chronic pain management services in cancer patients.

HBCR-POCSS (Hospital Based Cancer Registry-Patterns of Care and Survival Studies) records the information on all cancer patients to monitor and plan patient care at an institutional level.

All the females aged 18 years and above, diagnosed with breast cancer and confirmed by histopathology reports, attending the OPD of Department of Radiotherapy, GMC Jammu, after giving informed consent constituted our study population. All the new and follow up cases were enrolled in our study. The study was carried out for a period of one year from April 2020 to March 2021.

Exclusion Criteria:

- All the participants aged less than 18 years or more than 80 years
- Those who refused to give informed consent for the study
- All the unconfirmed cases of breast cancer
- Patients with previous/concomitant malignancy
- Any severe acute condition (respiratory distress, metabolic acidosis, encephalopathy etc)
- Any chronic medical condition excluding Diabetes Mellitus and Hypertension
- Any pregnant female or lactating mother with breast cancer
- All the cases with previously diagnosed psychiatric illness for which they were taking any medicine

Ethical Clearance:

Before commencing the study, approval was sought from the Institutional Ethical Committee (IEC), GMC Jammu. Permission was also sought from the head of department of Radiotherapy before the start of actual study.

Study Tool:

The Questionnaire used in the present study comprised of two parts. First part was meant to collect information on socio-demographic and clinical details. Socio-demographic details included age, residence, religion, educational status, income, marital status, occupation, number of children and family type. Clinical details included the information about patient status as new case or follow up case, time since diagnosis in follow-up case, details of treatment history and staging of cancer.

Second part of the questionnaire assessed the anxiety disorders using modules from M.I.N.I (Mini International Neuropsychiatric Interview) English Version 6.0.0.^[6] The MINI was based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria and the International Classification of Diseases (ICD-10). Patients having Post Traumatic Stress Disorder 'CURRENT' were identified using this instrument. Similarly, assessment for panic disorder and agoraphobia was done and the

study subjects were diagnosed as ‘PANIC DISORDER without Agoraphobia CURRENT’ OR ‘PANIC DISORDER with Agoraphobia CURRENT’ OR ‘AGORAPHOBIA CURRENT without history of Panic Disorder’. The disorders were determined based on “yes” or “no” answers to the questions in the MINI.

Statistical Analysis:

All the collected data was entered on Microsoft excel spread sheet. Descriptive data was presented as percentages. Chi Square Test was used to find out the statistical significance of association between different variables and anxiety disorders. P value < 0.05 was considered as statistically significant.

Results

A total of 275 patients constituted our study population. *Figure 1* reveals the prevalence of different anxiety disorders in our study population, among which PTSD was present in 37.5% of patients. Panic disorder and Agoraphobia were present individually in 47.3% and 1.2% of the study subjects respectively while combination of the two was seen to be present in 22.9% of study population.

Analysis of socio-demographic data reveals that more than two-third (74.2%) of study subjects were 31-60 years old while only 4.7% were aged ≤30 years. 76.7% of the participants were from rural background. Religion

Table 1: Association of Anxiety Disorders with Socio Demographic Variables (n=275)

Variable	n(%)	PTSD n(%)	Panic Disorder + Agora-phobia n(%)	Agora-phobia n(%)	Panic Disorder n(%)
Age					
30	13(4.7)	7(53.8)	0	2(15.4)	6(46.2)
31-45	107(38.9)	41(38.3)	23(21.5)	0	47(43.9)
46-60	97(35.3)	37(38.1)	23(23.7)	2(2.1)	52(53.6)
>60	58(21.1)	18(31.0)	17(29.3)	4(6.9)	25(43.1)
<i>p</i> value		0.46	0.147	0.003*	0.48
Residence					
Rural	211(76.7)	87(41.2)	44(20.9)	4(1.9)	101(47.9)
Urban	64(23.3)	16(25)	19(29.7)	4(6.2)	29(45.3)
<i>p</i> value		0.02*	0.14	0.07	0.72
Religion					
Hindu	218(79.3)	79(36.2)	51(23.4)	6(2.8)	104(47.7)
Muslim	39(14.2)	17(43.6)	8(20.5)	2(5.1)	19(48.7)
Sikh	18(6.5)	7(38.9)	4(22.2)	0	7(38.9)
<i>p</i> value		0.68	0.92	0.54	0.76
Type of Family					
Nuclear	165(60)	60(36.4)	38(23)	2(1.2)	81(49.1)
Joint	110(40)	43(39.1)	25(22.7)	6(5.5)	49(44.5)
<i>p</i> value		0.64	0.95	0.04*	0.46
Marital Status					
Unmarried	6(2.2)	1(16.7)	1(16.7)	0	4(66.7)
Married	247(89.8)	95(38.5)	60(24.3)	6(2.4)	113(45.7)
Widow	22(8)	7(31.8)	2(9.1)	2(9.1)	13(59.1)
<i>p</i> value		0.47	0.25	0.18	0.31
Monthly family income					
<50,000	250(90.9)	94(37.6)	56(22.4)	6(2.4)	122(48.8)
50,000-1,00,000	22(8)	7(31.8)	6(27.3)	2(9.1)	8(36.4)
>1,00,000	3(1.1)	2(66.7)	1(33.3)	0	0
<i>p</i> value		0.49	0.79	0.19	0.14

**p*<0.05 taken as statistically significant

wise analysis has shown that Hindus were in majority (79.3%). 60% of the study subjects belonged to nuclear family and 89.8% were married. As far as literacy was concerned, almost 2/3rd (67.3%) were illiterate. 88% of the study subjects were home makers. Most of the study population (90.9%) had monthly family income <50,000 INR (Table 1).

Analysis of association of anxiety disorders with socio-demographic variables revealed that PTSD was significantly associated with residence, depicting higher prevalence among subjects belonging to rural background. A significant association for Agoraphobia alone was seen with age and type of family, while Panic disorder has shown no significant association with any of the variables. Table 2 reveals that none of the anxiety disorders was

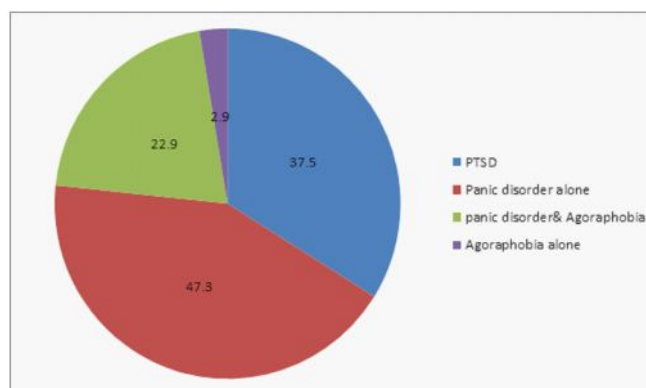


Figure 1: Prevalence of Anxiety Disorders among Breast Cancer Patients

Table 2: Association of Anxiety Disorders with Time Since Diagnosis in Breast Cancer Patients (n=275)

Time Since Diagnosis	n(%)	PTSD n(%)	Panic Disorder + Agoraphobia n(%)	Agoraphobia n(%)	Panic Disorder n(%)
<1 Year	187(68)	74(39.6)	39(20.9)	4(2.1)	87(46.5)
1- 2 Years	60(21.8)	18(30)	17(28.3)	4(6.7)	25(41.7)
>2 Years	28(10.2)	11(39.3)	7(25)	0	18(64.3)
<i>p</i> value		0.4	0.47	0.12	0.13

**p*<0.05 taken as statistically significant

Table 3: Association of Anxiety Disorders with Treatment History in Breast Cancer Patients (n=275)

Treatment History	n(%)	PTSD n(%)	Panic Disorder + Agoraphobia n(%)	Agoraphobia n(%)	Panic Disorder n(%)
Surgery	37(13.5)	15(40.5)	20(54.1)	4(10.8)	5(13.3)
Chemotherapy	11(4)	4(36.4)	1(9.1)	2(18.2)	5(45.5)
Radiotherapy	3(1.1)	1(33.3)	3(100)	0	0
Combined Therapy†	203(73.8)	74(36.5)	98(48.3)	2(1)	46(22.7)
No Treatment	21(7.6)	9(42.9)	8(38.1)	0	7(33.3)
<i>p</i> value		0.97	0.02*	0.00*	0.12

†Combined therapy includes those breast cancer patients who had received ≥2 treatment modalities. **p*<0.05 taken as statistically significant

Table 4: Association of Anxiety Disorders with Staging in Breast Cancer Patients (n=275)

Staging	n(%)	PTSD n(%)	Panic Disorder + Agoraphobia n(%)	Agora-phobia n(%)	Panic Disorder n(%)
IA	9(3.3)	3(33.3)	3(33.3)	0	5(55.6)
IB	2(7)	0	0	0	2(100)
II A	51(18.5)	23(45.1)	10(19.6)	2(3.9)	29(56.9)
II B	70(25.5)	22(31.4)	12(17.1)	2(2.9)	38(54.3)
III A	39(14.2)	22(56.4)	9(23.1)	2(5.1)	11(28.2)
III B	18(6.6)	6(33.3)	6(33.3)	0	5(27.8)
III C	5(1.8)	0	0	2(40)	3(60)
IV	58(21.1)	21(36.2)	18(31)	0	25(43.1)
Unknown	23(8.4)	6(26.1)	5(1.7)	0	12(52.2)
p value		0.08	0.48	0.000*	0.05

*p<0.05 taken as statistically significant

significantly associated with time since diagnosis of breast cancer. Association of anxiety disorders when studied in relation to treatment history has shown that Agoraphobia, either alone or in combination with panic disorder, was found to have significant association (p<0.05) (Table 3). Staging of cancer has shown a statistically significant association with Agoraphobia as revealed in Table 4.

Discussion

Data from the present study provides several important implications for understanding the impact of breast cancer on mental well-being of patients. Analysis of results have revealed that 38.9% of the respondents were in the age group of 31- 45 years and 35.3% in 45- 60 years. These results are in consonance with those reported by Ng et al.^[7], Hassan et al.^[8] and Alagizy et al.^[9] Similarly National Cancer Registry 2003 reported commonest age of breast cancer to be between 40 and 49 years with mean age of 50 years.^[10]

Diagnosis of breast cancer elicits great distress on women regardless of the prognosis inspite of availability of early detection and medical treatments.^[11] The distress can range from psychiatric morbidity (depression and anxiety) to post traumatic stress symptoms.^[12,13] Breast cancer patients are likely to experience depression and/or anxiety at any stage of the illness.

In the current study, among the anxiety disorders, panic disorder alone was found to be prevalent in 47.3% of the respondents. This was followed by post-traumatic stress disorder and panic disorder with agoraphobia in 37.5% and 22.9% respondents respectively. These results are in agreement with those reported by Mehnert and Koch^[14], Burgess et al.^[15] and Unseld et al.^[16] Among other studies, Allam^[17] reported anxiety prevalence rate of 15-25%, Hassan et al.^[8] reported 31.7% while

Vahdaninia et al.^[18] reported prevalence of severe anxiety in 38.4% of the breast cancer patients. Dastan and Buzlu^[19] in their study conducted in Turkey reported 35% prevalence of anxiety among breast cancer patients while an Asian study reported 16% prevalence.^[20]

The results of the current study revealed no significant association between socio-demographic variables and anxiety disorders except for Agoraphobia which was significantly associated with age and type of family. However, Mehnert et al.^[13] reported that lower educational level was a predictor of psychological co-morbidity in patients with breast cancer. Alagizy et al.^[9] reported statistically significant association of occupation with anxiety state as unemployed patients had higher prevalence of moderate to severe anxiety (p=0.003). Agoraphobia was found to be significantly associated with treatment history and stage of cancer. The findings are supported by a study conducted by Tsaras et al.^[21] who reported that patients who were diagnosed in stage IV of breast cancer had a higher risk for depression and anxiety compared to stage I patients.

Limitations

The study being conducted in a single facility with only outpatients as the study subjects and a smaller sample size are among the limiting factors as far as extrapolation (generalization) of the results is concerned. Authors recommend multi-centric studies with larger sample size for better generalization of results.

Conclusions

The present study has provided us with some insight into the prevalence of various types of anxiety disorders among breast cancer patients. There is an urgent need to focus on such issues so that the patients with anxiety disorders could be immediately referred to a psychiatrist

in order to improve their mental health status which might affect their quality of life in long term.

Recommendations

This study recommends that breast cancer patients are highly vulnerable to one or other anxiety disorders, hence they should be assessed on regular basis by mental health experts for timely detection, treatment and improved Quality of life.

Relevance of study

Results of this study should help the health care planners to evolve various strategies to combat the anxiety disorders among the females suffering from breast cancer.

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Nil.

Conflicts of Interest

There are no conflicts of interest.

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