

# **Anxiety and Depression among Breast Cancer Patients: A prospective study in a tertiary care hospital.**

## **ABSTRACT**

**Background:** Breast cancer is the most common cancer in women. Course of disease and its treatment impacts self-image, and the sexual relationship of patient. Most patients experience Psychological reactions. Patients develop psychiatric morbidities, mainly anxiety and depressive disorders. Anxiety and depressive disorders although being common in breast cancer are ignored and left untreated. These psychiatric disorders worsen course of the disease and outcomes of treatment. Having a better understanding of common psychiatric disorders can help in planning treatment and may lead to better treatment success. **Methods:** A prospective study was carried out in the Department of General Surgery at Sri Guru Ram Das Institute of Medical Sciences And Research, Sri Amritsar. We enrolled 50 patients of carcinoma breast. Depression and Anxiety were assessed using validated scales as advised by psychiatrist- Hamilton depression rating Scale (HDRS) and Hamilton Anxiety Rating Scale (HAM-A), respectively. The data was collected and assessed using appropriate statistical tool. **Results:** In our research the average age of women was 49.25 years. Of the 50 patients, 72% had depression. 24% of patients with depression had moderately severe to severe depression. 90% of patients had anxiety disorder and 24% had moderately severe to severe anxiety disorder. **Conclusion:** Depression and anxiety disorders are quiet common among the patients of breast cancer. A public health initiative compromising of social, financial and environmental support that can help in providing better quality of life for breast cancer survivors is required.

Key words: BREAST CANCER, carcinoma, anxiety disorder, chemotherapy, radiotherapy, hormonal therapy

## INTRODUCTION

“The most common cancer which is being diagnosed worldwide is Breast Cancer and it remains the most common cause of cancer death in women. In 2008 there were 1.4 million new breast cancer cases and 458,000 deaths”.<sup>1</sup>

“The impacts that the disease have on self-image of patient and sexual relationship with partner are the reasons this disease has been considered terrifying”.<sup>2</sup> “Surgery, chemotherapy, radiotherapy and hormonal therapy are the treatment modalities for breast cancer. These modalities can be used alone or as combination”.<sup>3</sup> “The primary treatment for breast cancer is Surgery and the adjuvant therapies used are chemotherapy & radiotherapy. To inhibit metastasis these therapies can be used before primary treatment or after it and hence enhancing long-term survival rates”.<sup>4</sup>

“In past years there has been a significant increase in the number of survivors of breast cancer. Reason for this has been the advancements in diagnosing and treatment modalities. Patients get exposed to various treatment side-effects associated with treatment. Stress in breast cancer patients undergoing treatment for the disease is due to symptoms caused by cancer and treatment”.<sup>5</sup>

“Hence it becomes an important issue to address the impact of breast cancer and its treatment on long-term outcomes”.<sup>6</sup>

“According to studies that have been conducted, about one third to half of breast cancer patients have a likeliness to experience psychological distress”.<sup>7</sup> “Depending on the sample, and particularly the definition of depression and method of assessment the prevalence of depression ranges from 1.5 to 50%”.<sup>8,9</sup>

“The reduction in overall quality of life among cancer patients is associated with emotional stress. It is because of negative impact that it has on compliance levels with medical treatment and an increased risk of mortality, emotional distress becomes the sixth vital sign in cancer care”.<sup>10</sup> It is seen that patients with cancer and comorbid depression have worsening severity of anxiety, pain, fatigue, and functioning as compared to other patients of cancer. Suicidal thoughts are more likely in such patients.<sup>11</sup> “The distress among cancer patients is often overlooked and under-treated despite the effect it has on daily functioning”.<sup>12</sup>

“The impacts on the self-image and sexual relationship make breast cancer or its treatment a traumatic experience for women. Most of the breast cancer patients experience psychological reactions viz. denial, anger, intense fear toward their disease and treatment process are seen in most of the patients of breast cancer and many have psychiatric morbidities”.<sup>13</sup> Fatigue, depression, and/or anxiety may be experienced by patients after months to years of their breast cancer diagnosis.

These symptoms have an association with the greater disability and a poorer quality of life. Major depressive disorder, dysthymic disorder and adjustment disorder with depressive mood and mixed depressive and anxious mood disorders are included in depressive disorders.

“Anxiety disorders including generalised anxiety disorder, post-traumatic stress syndrome and adjustment disorder with anxious mood are among other common psychiatric disorders seen in patients of breast cancer”.<sup>14</sup> There is a higher prevalence of depression during the first year after breast cancer diagnosis.

Zainal et al.<sup>15</sup> “did a systematic review in which patients in their first year after diagnosis had the highest prevalence of depression”. “It was demonstrated in one study that in a very large sample of cancer patients the prevalence of depression among patients of breast cancer was about 32.8%”.<sup>16</sup> Another study comprising of 227 advanced breast cancer showed that 42% had psychiatric disorders out of which 35.7% depression or anxiety or both. 25.6% had minor depression, while 6.2% patients had major depression and anxiety disorder.<sup>17</sup>

It has also been reported that anxiety and depression disorders are seen in 40% of the patients having disease recurrence.<sup>18</sup>

“Past history of anxiety or depressive disorder, younger age at diagnosis, poor social support, burdensome somatic symptoms, currently undergoing active cancer treatment, specific drug treatments are considered as risk factors for anxiety and depression in women with breast cancer”.<sup>19</sup> Other risk factors are worries regarding fear of death and disease recurrence, altered body image.<sup>18</sup>, alteration of femininity, sexuality and attractiveness.<sup>17</sup>

“Positive effects are demonstrated in breast cancer patients when treated with psychological interventions such as cognitive behavioural therapy; supportive-expressive group therapy and yoga, on other hand classic pharmacotherapy, such as antidepressants, is reserved only for cases of true depression”.<sup>18</sup>

The purpose of this study was to assess prevalence of Anxiety and depressive disorder in patient diagnosed with and undergoing treatment for Carcinoma Breast, in order to identify independent predictors of mental health disorders risk.

Such psychological distress persists even after an efficient treatment has been provided for the physical disease and it accompanies the patient for a long time, thus having a negative impact on quality of life of the patient.<sup>20,21</sup> In most oncology settings, the treatment is focused mainly on the physical symptoms whereas the psychological distress is ignored.

Effective treatment of these patients with a better treatment success can be planned after having a better understanding of common psychiatric disorders and associated psychological factors found in patients of breast cancer. In this study, we aimed to assess prevalence of Anxiety and depressive disorder in patient diagnosed with and undergoing treatment for Carcinoma Breast.

## **METHODS**

1. After institutional ethical committee clearance a prospective study was carried out in the Department of General Surgery at Sri Guru Ram Das Institute of Medical Sciences And Research, Amritsar for the period of 2 years (Nov 2020-Sep 2022). A total of 50 cases of Carcinoma Breast undergoing treatment were included in the study series. The data was collected by interview technique. The psychological assessment was done by the psychiatrist using two validated scales; Hamilton Anxiety Rating Scale (HAM-A), Hamilton depression rating Scale (HDRS). Statistical method was done using statistical package for social sciences (SPSS) version 23.0.

### **Inclusion Criteria:**

1. Histologically documented diagnosis of breast cancer
2. Woman, 18 or more years of age
3. No history of prior mental disorder and dementia
4. Patients giving consent for study.

### **Exclusion Criteria:**

1. Patients no giving consent for study
2. Patients having any previous history of any psychiatric or mood disorder.

## **RESULTS**

Table 1: Clinical and Sociodemographic Characteristics :

| <b>Age group</b>       | <b>No. of cases</b> | <b>Percentage</b> |
|------------------------|---------------------|-------------------|
| 30-40                  | 10                  | 20                |
| 41-50                  | 17                  | 34                |
| 51-60                  | 12                  | 24                |
| 61-70                  | 6                   | 12                |
| >70                    | 5                   | 10                |
| Total                  | 50                  | 100.0             |
| <b>Residence</b>       | <b>No. of cases</b> | <b>Percentage</b> |
| RURAL                  | 31                  | 62                |
| URBAN                  | 19                  | 38                |
| Total                  | 50                  | 100.0             |
| <b>No. of children</b> | <b>No. of cases</b> | <b>Percentage</b> |
| 1-2                    | 17                  | 34                |
| 3-4                    | 29                  | 58                |
| >4                     | 4                   | 8                 |
| Total                  | 50                  | 100               |

| <b>Stage</b>              | <b>No. of cases</b> | <b>Percentage</b> |
|---------------------------|---------------------|-------------------|
| 1                         | 2                   | 4                 |
| 2                         | 30                  | 60                |
| 3                         | 13                  | 26                |
| 4                         | 5                   | 20                |
| Total                     | 50                  | 100.0             |
| <b>Mastectomy</b>         | <b>No. of cases</b> | <b>Percentage</b> |
| N                         | 5                   | 10                |
| Y                         | 45                  | 90                |
| Total                     | 50                  | 100.0             |
| <b>ADJUVANT TREATMENT</b> | <b>No. Of Cases</b> | <b>Percentage</b> |
| CT                        | 19                  | 38                |
| CT RT                     | 15                  | 30                |
| NO                        | 16                  | 32                |
| Total                     | 50                  | 100.0             |
| <b>Hormonal</b>           | <b>No. of cases</b> | <b>Percentage</b> |
| NO                        | 22                  | 44                |
| YES                       | 28                  | 56                |
| Total                     | 50                  | 100.0             |
| <b>Current activity</b>   | <b>No. of Cases</b> | <b>Percentage</b> |
| VERY BAD                  | 1                   | 2                 |
| BAD                       | 6                   | 12                |
| MODERATE                  | 11                  | 22                |
| GOOD                      | 23                  | 46                |
| VERY GOOD                 | 9                   | 18                |

|       |    |       |
|-------|----|-------|
| Total | 50 | 100.0 |
|-------|----|-------|

CT = Chemotherapy, RT = Radiotherapy

A total of 50 breast cancer patients were included in this study. The mean age of the patients was 49.25 years and the majority of them were found in the age range of 40-49 (34%). Overall, 62% and 38% respondents were rural and urban residents, respectively. Most respondents had 3 to 4 children (58%).

Out of 50 patients 90% of the patients underwent mastectomy. 38% of patients received chemotherapy as adjuvant therapy, 30% received both chemotherapy and radiotherapy. 56% of patients received hormonal therapy in form of Tamoxifen.

Out of 50 patients, 60% were in second stage of breast cancer while 26% were in third stage. The current activity-burden of symptoms was assessed which showed that most of patients had a normal activity without any symptoms ("very good level", 18%) or they had some symptoms but it did not require bed rest during the day ("good level", 46%). A high percentage of the study participants declared that they required bed rest less than 50% of the day ("moderate level", 22%). Also, 14% of patients stated that they required bed rest more than 50% of the day ("bad level") or they could not get out of bed ("very bad level"). Demographic, social, and clinical characteristics of the patients are provided in Table 1

### Prevalence of Depression and Anxiety

The mean total score of HDRS and HAM-A questionnaire was 12.62 (SD=8.48) and 12.17 (SD=2.91) respectively. Specifically, the screening method showed prevalence 72% (36/50) for depression and 90% (45/50) for anxiety.

Table 2: Total scores of study scales

| Ham A    | No. Of Cases | Percentage |
|----------|--------------|------------|
| No       | 5            | 10         |
| Mild     | 33           | 66         |
| Moderate | 12           | 24         |
| Severe   | 0            | 0          |

|             |                     |                   |
|-------------|---------------------|-------------------|
| Total       | 50                  | 100.0             |
| <b>HDRS</b> | <b>No. Of Cases</b> | <b>Percentage</b> |
| No          | 14                  | 28                |
| Mild        | 24                  | 48                |
| Moderate    | 9                   | 18                |
| Severe      | 3                   | 6                 |
| Total       | 50                  | 100.0             |

## DISCUSSION

Assessing the prevalence of depression and anxiety in breast cancer patients was the most important purpose of our study which was 72% and 90% respectively. Significant predictors of depressive and anxiety symptoms include current activity - burden of symptoms and place of residence.

“Following the diagnosis of breast cancer both depression and anxiety are frequently diagnosed and finding ways to efficiently detect such patients who are under risk for psychological distress is important”.<sup>22</sup>

Difficulties because of therapeutic methods like mastectomy or chemotherapy or both along with a series of social and family problems can escalate these conditions in the patients who already in a burdened mental state of health after being diagnosed to have breast cancer. Moreover there is an association of psychological distress (symptoms of depression and anxiety) with worse physical function.<sup>23</sup> & high mortality risk.<sup>24</sup>

Out of 50 patients of breast cancer included in our study, 72% were diagnosed with depression based on HDRS questionnaire and 90% were diagnosed with anxiety HAM-A questionnaire. In a

study conducted by Fradelos et al.<sup>25</sup> showed that “prevalence of depression and anxiety in patients of breast cancer patients were 54.5% and 46.8%”.

Our study showed that in breast cancer patients area of residence was a significant predictor for depression and anxiety. Our results are in accordance to study conducted by Ell et al.<sup>26</sup> which showed that anxiety and depressive symptoms were experienced more in patients living in rural areas and in conflict with study conducted by Lavdaniti et al.<sup>27</sup> Partial explanation of this can be the poor accessibility of health care services in rural population.

Finally, results of our study showed that patients diagnosed in stage IV of breast cancer were at a higher risk for depression and anxiety than stage I patients. This finding is in accordance to a recent study conducted by Fradelos et al.<sup>25</sup> “in which stage IV breast cancer patients were 1.9 times ( $p=0.003$ ) more likely to have depressive symptoms”. According to our study symptom burden is a significant predictor for depression and anxiety disorders. This finding is also in accordance to study conducted by Fradelos et al.<sup>25</sup> which concludes that “depression and anxiety are have a significant association with higher symptom burden and worse physical functioning” (Fradelos et al).<sup>25</sup>

## **Conclusion**

The present study was carried out 50 patients of Carcinoma Breast in the Department of General Surgery at Sri Guru Ram Das Institute of Medical Sciences and Research, Sri Amritsar to assess the prevalence of Depression and Anxiety in patients of carcinoma breast.

The following conclusions have been drawn from our study:

1. Prevalence of depression and anxiety disorders is significantly high in patients of breast cancer.
2. Anxiety disorders are more common than depressive disorders.
3. Prevalence of depressive and anxiety disorders were more in patients coming from rural areas than from urban areas.

According to the findings of this study, there is a high prevalence of anxiety and depression among breast cancer patients. Being a rural inhabitant and having a high symptom burden can be risk factors for depression and anxiety in breast cancer patients. Early detection and appropriate referral can help to address these issues, improving quality of life and survival in breast cancer patients.

#### **Ethical Approval:**

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

#### **Consent**

As per international standard or university standard, patient(s) written consent has been collected and preserved by the author(s).

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