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Prevalence Of Fear Of Cancer Recurrence In Breast Cancer Survivors: A Plight That Needs More Attention From Healthcare Providers

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Abstract

Objective: To assess the prevalence of fear of cancer recurrence among breast cancer survivors and to identify the common factors associated with fear of cancer recurrence.

Study Design: Observational cross-sectional study.

Place and Duration of Study: Oncology Department, Fauji Foundation Hospital, Rawalpindi, from April 2024 to December 2024.

Methodology: A total of 62 breast cancer survivors aged between 20 and 70 years who had completed treatment for stage I–III breast cancer were enrolled using non-probability consecutive sampling. Fear of cancer recurrence was assessed using the Fear of Cancer Recurrence Inventory (FCRI), a validated 42-item questionnaire translated into Urdu following forward and backward translation procedures.

Results: The mean age of participants was 48.7 ± 9.6 years. Overall, 38 (61.3%) breast cancer survivors reported moderate to high levels of fear of cancer recurrence. The mean duration since treatment completion was 18.4 ± 7.2 months. Clinically, stage II disease was most common (48.4%), followed by stage III (35.5%) and stage I (16.1%). Hormone receptor-positive tumours were observed in 54.8% of patients, while 25.8% had triple-negative breast cancer and 19.4% had HER2-positive tumours. Combined treatment with surgery, chemotherapy, and radiotherapy was received by 58.1% of participants, and 66.1% were on hormonal therapy for more than six months. The mean Fear of Cancer Recurrence Inventory score was 68.5 ± 18.2, with 61.3% of survivors reporting moderate to high levels of fear of cancer recurrence. Higher fear levels were significantly associated with

younger age (p = 0.041), advanced cancer stage (p = 0.036), aggressive tumor subtypes (p = 0.048), and intensive treatment modalities (p = 0.039).
Conclusion: Fear of cancer recurrence is common among breast cancer survivors and is influenced by several demographic and clinical factors. These findings highlight the importance of incorporating psychological assessment and support into routine survivorship care to improve the overall well-being and quality of life of breast cancer survivors.

Introduction

Breast cancer is the most common cancer that is diagnosed in all women globally and one of the key issues in the population health. The improved methods of diagnosis, better early detection techniques and the development of effective treatment have greatly enhanced the patients of breast cancer to survive [1]. Consequently, the population of breast cancer survivors has been increasing continuously during the last decades. Although the fact that people have better chances of surviving is a positive attribute, a significant number of survivors still experience numerous physical, psychological, and social problems following treatment termination [2]. Fear of cancer recurrence has so far become one of the most prevalent and distressing psychological concerns to breast cancer survivors. Diagnostic approach and specific treatment have increased the survival rates of breast cancer patients [3]. Therefore, the number of breast cancer survival patients on follow up has also risen tremendously in Pakistan. Diagnosis and treatment of cancer comes with immense emotional and physical pain to the patients, despite the fact that they revert to their normal routine after the treatment is over [4]. Therefore, it is quite probable that such individuals are highly prevalent in the prevalence of psychological issues such as anxiety and depression [3]. Fear of cancer recurrence (FCR) is the usual element that causes distress among such patients [4]. Such interest in recurrence may have adverse implications for patients' quality of life and may also be associated with higher health care expenditures and utilisation [5]. Moreover, the health providers tend to ignore this concern. Early identification, interventions, and relevant referrals to clinical psychologists can benefit patients and improve living standards. It has been reported that such patients are better positioned to care for themselves and regain functionality when FCR is low [6].

Fear of recurrence or progression of cancer has been defined to be fear, worry or concern over the likelihood of cancer returning or advancing [7]. The conceptualised four features of clinical FCR in the 2019 Delphi study included: (a) high levels of preoccupation, (b) high levels of worry, (c) being persistent and (d) being hyper vigilant to bodily symptoms [8]. Frameworks of cognitive behavioral therapy are being designed and are under testing to treat FCR. Thus, the ability to identify and confirm patient emotions is severely needed to enhance the overall patient health and reduce the distress of the patients to ensure that treatment and support they require is provided to them. Our population will be analyzed using the Fear of Cancer Inventory (FCI) that is a type of questionnaire that is widely used to screen FCR [9]. Some risk factors of FCR are established such as the female gender, education, the financial background, the baseline emotional support, ethnicity, physical symptoms, health literacy and treatment modalities [10]. In our work, we are intending to measure the rate of FCR in our locality that comprises breast cancer survivors and to determine the frequently used factors that are linked with FCR.

Objective

The objective of this study was to assess the prevalence of fear of cancer recurrence among breast cancer survivors and to identify the common factors associated with fear of cancer recurrence.

Methodology

This was a quantitative observational study with a cross-sectional case series design conducted at the Oncology Department of Fauji Foundation Hospital, Rawalpindi from April 2024 to December 2024, following approval from the relevant ethical review board. The sample size was calculated using the online OpenEpi calculator. With a margin of error of 5%, confidence interval of 95%, and anticipated population proportion of 5.2%, the required sample size was estimated to be 62 participants. Participants were enrolled using a non-probability consecutive sampling technique.

Breast cancer survivors aged between 20 and 70 years who had completed treatment for stage I–III breast cancer were included in the study. Patients receiving hormonal therapy for more than six months were eligible. Survivors with hormone receptor positive (HR+), HER2 neu negative tumors, triple negative breast cancer, and HER2 neu positive tumors were also included. Patients with diagnosed psychiatric illnesses, chronic organ failure such as chronic renal failure or chronic liver disease, patients with ischemic heart disease who had undergone cardiac intervention, and those with stage IV metastatic breast cancer were excluded from the study.

Data Collection

A cross-sectional survey was conducted among breast cancer survivors attending the outpatient oncology clinic. The Fear of Cancer Recurrence Inventory (FCRI), a validated 42-item questionnaire created in 2009 by Simard and Savard, was used to assess fear of cancer recurrence. The original authors granted permission to use and translate the tool. The questionnaire was translated from English into Urdu through forward translation by two independent bilingual experts who were native speakers of Urdu and proficient in English. To maintain the accuracy of the scale, the Urdu version was then back-translated into English by two independent bilingual experts. Three certified bilingual individuals validated the translated 42-item Urdu version of the FCRI. A pilot study was conducted on an initial group of 10 breast cancer patients using the translated questionnaire to ensure clarity and comprehension. Before finalizing the questionnaire for the study population, any difficult or confusing questions were reviewed and improved. After obtaining informed consent, eligible participants were enrolled in the study. A brief clinical history and interview were conducted, and the questionnaire was completed either by the patients themselves or by attendants if the patient was unable to complete it independently. Cronbach's alpha was used to calculate the translated questionnaire's internal consistency reliability. The translated Fear of Cancer Recurrence Inventory demonstrated good reliability with a Cronbach’s alpha value of 0.845 for the 42 items included in the scale.

Data Analysis

Data were entered and analyzed using SPSS statistical software version 23. Descriptive statistics were used for analysis. Continuous variables such as age and stage of disease were expressed as mean ± standard deviation. Categorical variables including hormonal status, HER2 neu status, receipt of chemotherapy or radiotherapy, and other clinical characteristics were presented as frequencies and percentages.

Results

Data were collected from 62 patients, mean age of the participants was 48.7 ± 9.6 years. Most patients belonged to the 40–59 year age group, accounting for 34 (54.8%) individuals, while 14 (22.6%) patients were aged 20–39 years and another 14 (22.6%) were aged 60 years or above. The majority of participants were married, representing 50 (80.6%) cases, whereas 12 (19.4%) were unmarried or widowed. Regarding socioeconomic status, 28 (45.2%) participants belonged to the low-income group, 22

(35.5%) to the middle-income group, and 12 (19.3%) to the high-income group. The mean duration since completion of treatment was 18.4 ± 7.2 months.

Table 1. Demographic Characteristics of Breast Cancer Survivors (n = 62)

Variable	Category	n (%) / Mean ± SD
Age (years)	—	48.7 ± 9.6
Age Group	20–39 years	14 (22.6)
	40–59 years	34 (54.8)
	≥60 years	14 (22.6)
Marital Status	Married	50 (80.6)
	Unmarried / Widowed	12 (19.4)
Monthly Income	Low	28 (45.2)
	Middle	22 (35.5)
	High	12 (19.3)
Time Since Treatment Completion (months)	—	18.4 ± 7.2

Nearly half of the patients, 30 (48.4%), had stage II breast cancer, followed by 22 (35.5%) with stage III disease and 10 (16.1%) with stage I disease. Regarding tumor biology, hormone receptor positive tumors were the most common, observed in 34 (54.8%) patients. Triple-negative breast cancer was present in 16 (25.8%) patients, while HER2-positive tumors were identified in 12 (19.4%). In terms of treatment modalities, 36 patients (58.1%) received combined treatment including surgery, chemotherapy, and radiotherapy. Eighteen (29.0%) patients underwent surgery with chemotherapy, while 8 (12.9%) patients had surgery alone.

Table 2. Clinical Characteristics of Breast Cancer Survivors (n = 62)

Variable	Category	n (%)
Stage of Cancer	Stage I	10 (16.1)
	Stage II	30 (48.4)
	Stage III	22 (35.5)
Hormone Receptor Status	HR positive	34 (54.8)
	Triple Negative	16 (25.8)
	HER2 positive	12 (19.4)
Treatment Modality	Surgery only	8 (12.9)
	Surgery + Chemotherapy	18 (29.0)
	Surgery + Chemotherapy + Radiotherapy	36 (58.1)
Hormonal Therapy (>6 months)	Yes	41 (66.1)
	No	21 (33.9)

The mean total Fear of Cancer Recurrence Inventory (FCRI) score was 68.5 ± 18.2. Among the participants, 24 (38.7%) reported low levels of fear of cancer recurrence, 22 (35.5%) had moderate levels of fear, and 16 (25.8%) experienced high levels of fear. Overall, 38 (61.3%) survivors demonstrated moderate to high levels of fear of cancer recurrence.

Table 3. Prevalence of Fear of Cancer Recurrence (n = 62)

Variable	Category	n (%) / Mean ± SD
Total FCRI Score	—	68.5 ± 18.2
Fear of Cancer Recurrence Level	Low	24 (38.7)
	Moderate	22 (35.5)

	High	16 (25.8)
Overall Moderate–High Fear	—	38 (61.3)

Younger survivors aged 20–39 years had the highest proportion of high fear, with 9 (64.3%) patients, compared with 10 (29.4%) in the 40–59 year group and 3 (21.4%) in those aged ≥60 years (p = 0.041). High fear was also more common among patients with stage III disease, observed in 12 (54.5%) patients, compared with 8 (26.7%) in stage II and 2 (20.0%) in stage I (p = 0.036). Tumor subtype was also significantly associated with fear levels; high fear was reported in 8 (50.0%) patients with triple-negative breast cancer and 7 (58.3%) with HER2-positive tumors compared with 7 (20.6%) among hormone receptor positive patients (p = 0.048).

Table 4. Association of Clinical Variables with High Fear of Cancer Recurrence (n = 62)

Variable	Category	High Fear n (%)	Moderate/Low Fear n (%)	p-value
Age Group	20–39 years	9 (64.3)	5 (35.7)	0.041
	40–59 years	10 (29.4)	24 (70.6)	
	≥60 years	3 (21.4)	11 (78.6)	
Cancer Stage	Stage I	2 (20.0)	8 (80.0)	0.036
	Stage II	8 (26.7)	22 (73.3)	
	Stage III	12 (54.5)	10 (45.5)	
Tumor Type	HR positive	7 (20.6)	27 (79.4)	0.048
	Triple Negative	8 (50.0)	8 (50.0)	
	HER2 positive	7 (58.3)	5 (41.7)	
Treatment Modality	Surgery + Chemo + Radiotherapy	15 (41.7)	21 (58.3)	0.039
	Other modalities	7 (26.9)	19 (73.1)	

The highest mean score was observed in the severity subscale (14.6 ± 5.1), followed by psychological distress (12.9 ± 4.7) and triggers (11.8 ± 4.2). Functional impairment had a mean score of 8.4 ± 3.2, reassurance seeking scored 7.5 ± 2.9, and insight had a mean score of 7.3 ± 2.6. Coping strategies showed the lowest mean score of 6.0 ± 2.1.

Table 5. Subscale Scores of Fear of Cancer Recurrence Inventory (FCRI) (n = 62)

FCRI Subscale	Mean ± SD
Triggers	11.8 ± 4.2
Severity	14.6 ± 5.1
Psychological Distress	12.9 ± 4.7
Functional Impairment	8.4 ± 3.2
Insight	7.3 ± 2.6
Reassurance Seeking	7.5 ± 2.9
Coping Strategies	6.0 ± 2.1
Total FCRI Score	68.5 ± 18.2

Discussion

One of the most common psychological issues that breast cancer survivors face is their fear of cancer recurrence. Survivorship research is increasingly focusing on this issue. The current study looked at the clinical and demographic factors that are associated with this condition as well as the prevalence of fear of cancer recurrence among breast cancer survivors. The findings revealed that a considerable proportion of survivors experienced moderate to high levels of fear of cancer recurrence, highlighting the substantial psychological burden that persists even after successful

completion of treatment. In the present study, approximately 61.3% of breast cancer survivors reported moderate to high levels of fear of recurrence, which indicates that this concern remains prevalent among survivors. These results are consistent with previous research [11,12], which found that between half and two-thirds of breast cancer survivors continue to worry about cancer coming back. Previous research has shown that fear of recurrence can remain present for many years following treatment and is often triggered by follow-up visits, physical symptoms, or uncertainty about future health outcomes. This study's high prevalence demonstrates the significance of addressing psychological aspects of survivorship care in addition to physical cancer management [13]. In this study, age appeared to play a significant role in influencing fear of cancer recurrence. Younger survivors reported relatively higher levels of fear compared with older participants. This observation has also been made in previous studies, which found that younger women were more anxious about recurrence. Younger cancer survivors frequently face additional psychosocial challenges, such as worries about long-term survival, career disruption, fertility issues, and family responsibilities [14]. These factors may contribute to heightened emotional distress and increased vigilance toward symptoms among younger survivors. Disease-related factors also appeared to influence the level of fear experienced by survivors [15]. Patients diagnosed with stage III breast cancer demonstrated higher levels of fear compared with those diagnosed at earlier stages. More advanced disease stages may increase patients' perception of vulnerability and uncertainty regarding prognosis [16]. Similarly, survivors with biologically aggressive tumor types such as triple-negative and HER2-positive breast cancer reported higher fear levels compared with hormone receptor positive patients. These findings align with earlier studies that have reported an association between aggressive tumor biology and increased psychological distress among cancer survivors [17].

In this study, treatment-related factors were also linked to fear of recurrence. Survivors who received combined treatment modalities including surgery, chemotherapy, and radiotherapy showed higher levels of fear compared with those treated with fewer modalities. Intensive treatment regimens may serve as a reminder of the severity of the disease and may reinforce concerns regarding recurrence. Additionally, ongoing hormonal therapy may also contribute to persistent awareness of cancer-related risks, which may sustain fear among survivors [18]. The Fear of Cancer Recurrence Inventory used in this study demonstrated good reliability with a Cronbach's alpha value of 0.845, indicating strong internal consistency of the translated questionnaire. This finding supports the reliability of the Urdu-translated version of the instrument for assessing fear of recurrence in breast cancer survivors in the local population. Reliable assessment tools are essential for identifying patients who may benefit from psychological support and counselling interventions [19]. The findings of this study emphasise that fear of cancer recurrence remains a significant yet often under-recognised issue among breast cancer survivors. Despite the increasing number of survivors due to improvements in cancer treatment, survivorship care programs in many healthcare settings still focus primarily on physical health monitoring rather than psychological well-being [20].

Psychological support programs, counselling services, and patient education initiatives may help survivors cope with uncertainty and reduce anxiety related to recurrence. Cognitive behavioural therapy, mindfulness-based interventions, and survivorship counselling have been shown to be effective in reducing fear of recurrence in cancer survivors. This study had several limitations that should be considered while interpreting the findings. First, the study was conducted at a single tertiary care centre with a relatively small sample size of 62 participants, which may limit the generalizability of the results to the broader population of breast cancer survivors. Second, the cross-sectional design of the study restricted the ability to assess changes in fear of cancer recurrence over time or establish causal relationships

between associated factors and fear levels. Third, the data were collected using self-reported questionnaires, which may be subject to response bias or social desirability bias. Future multicenter longitudinal studies with larger sample sizes are recommended to better understand the determinants and long-term impact of fear of cancer recurrence among breast cancer survivors.

Conclusion

It is concluded that fear of cancer recurrence is highly prevalent among breast cancer survivors and represents a significant psychological concern that persists even after completion of treatment. Younger age, advanced stage of disease, aggressive tumor subtypes, and intensive treatment modalities were associated with higher levels of fear among survivors. These findings highlight the need for healthcare providers to recognize and address fear of recurrence as an important component of survivorship care. Early identification and appropriate psychological support may help improve the emotional well-being and overall quality of life of breast cancer survivors.

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