

# Symptom Management Experiences Among Breast Cancer Survivors Undergoing Chemotherapy: Insights from A Mixed Method Approach

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## Abstract

**Background:** Breast cancer, a significant global health concern, involves complex treatment regimens like chemotherapy that adversely affect patients' physical and psychological well-being. The primary aim was to explore the Chemotherapy symptoms management experiences among Breast Cancer Survivors.

**Objective:** To investigate the range of symptoms management experienced by breast cancer survivors during and after chemotherapy. To measure the chemotherapy symptoms severity among breast cancer survivors. To associate the symptoms severity levels with selected socio demographic variables. To integrate the qualitative and quantitative findings.

**Materials and Methods:** In the present study, researcher adopted Mixed method design by quantitative 60 samples and qualitative 6 sample using non-probability purposive and convenient technique. The tools include Socio-Demographic Data, Edmonton symptom assessment scale and Breast cancer survivors experience.

**Results:** The study revealed significant findings across various themes. Under the theme of symptom

experiences, patients experienced notable hair loss, taste alterations, and weight fluctuations. The Emotional and Psychological Effects theme highlighted issues such as isolation, fear, and oscillations between hope and despair. Support Systems were crucial, with significant roles played by family, friends, and medical professionals in providing emotional and physical support. Adaptation and Lifestyle Changes involved necessary dietary modifications and reduced activity, emphasizing the psychological resilience exhibited by patients. Notably, 80% of the patients were mildly experienced, while 20% were moderately experienced.

**Conclusion:** The findings underscore the necessity for an integrated approach in nursing practice, focusing on both the nutritional and psychological aspects of patient care. Regular assessments, personalized care plans, and the involvement of comprehensive support systems are essential to mitigate the adverse effects of chemotherapy and enhance patient well-being and treatment outcomes.

**Keywords:** Breast Cancer, Chemotherapy, symptom management, symptom severity level, Mixed-Methods Research

## Introduction

The symptom experience of cancer patients has been described as diverse influenced by the type of tumour, the stage of the disease and specific treatment, despite the presence of some common symptoms to most tumours. Strategies for symptoms management highly depend on understanding the complexity of the phenomenon, the experiences of symptoms perceived by patients, and the underlying causes. Given the myriad of symptoms that cancer patients experience during treatment, effective management of these symptoms becomes a priority in self-care. A less empirical approach shows that the meanings attributed by the patient to the disease are considered mediators of the patient's responses to diagnosis and treatment of cancer disease. These meanings can be culturally dependent and interact distinctively on health-related quality of life and the way the patient manages the symptoms associated with chemotherapy treatment. The study will involve in-depth interviews with breast cancer survivors to gather detailed narratives about their experiences. Participants will be asked to describe the symptoms they encountered, the impact these symptoms had on their daily lives, and the coping strategies they employed to manage them. Additionally, a quantitative survey will be administered to collect data on specific symptom profiles, coping mechanisms, perceived quality of life, and sociodemographic characteristics. By combining these two approaches, we hope to achieve a more nuanced and comprehensive understanding of the challenges faced by breast cancer survivors in managing chemotherapy-related symptoms. This knowledge can inform the development of targeted interventions and support services aimed at improving the quality of life for breast cancer survivors.

## Materials and Methods

The study was conducted over four weeks at Rajiv Gandhi Government General Hospital, Chennai, focusing on 55 breast cancer patients undergoing chemotherapy for quantitative study and 5 patients for qualitative study. Data collection involved sociodemographic surveys, semi-structured interviews, and the Edmonton symptom assessment scale. Thematic analysis was utilized for qualitative data, while SPSS was employed for quantitative data analysis, ensuring a rigorous validation of the findings. Both purposive and convenient sampling techniques were used to select the participants.

### Sample size calculation

Sample size was calculated using a previous study conducted by Maass.et.al. Fatigue symptoms of (p) = 15.4% with acceptable error of 10% and 95% confidence interval (CI).

$$n = \frac{Z^2 \cdot \frac{\alpha}{2} \cdot p(1-p)}{d^2}$$

Where p – expected proportion (15.4%)

d – absolute precision (10%)

$1 - \frac{\alpha}{2}$  – desired confidence level

Z – z score for 95% i.e. 1.96

$$n = \frac{1.96^2 * 15.4(100 - 15.4)}{10 * 10}$$

n = 60 participants

### Data collection procedure

The study was conducted only after receiving consent from the Institutional Ethics Committee. For the qualitative part participants were chosen using non-probability purposive sampling approaches. The study's objective was explained to the participants. Consent was gained from the participants once they were provided with all the necessary information. The perceived image disturbances which they expressed were audio-tapped and analyzed using the thematic content analysis method to derive themes and sub-themes. For the quantitative part, the participants were selected using a convenient sampling technique. Questionnaires assessing socio demographic characteristics, Edmonton symptom assessment was given, with a duration of 10-15 minutes.

### Statistical Analysis

The data collected were compiled in MS Excel sheet and analysed using Statistical Package for Social Sciences (SPSS) version 22. Demographic characteristics that fall into categories were presented using percentages and frequencies. The participants' experiences on perceived image disturbances were recorded and examined using the thematic content analysis approach to identify and categorise themes and sub-themes. The data was displayed using a combination of a multiple-bar diagram and a simple bar graph, which incorporated three standard errors. A statistical test was used to see if the p-value was less than 0.05, indicating statistical significance.

### Ethical Considerations

Ethical approval was obtained from the Institutional Ethics Committee, HOD and department of medical oncology, RGGGH, Chennai. Ensuring adherence to ethical principles such as beneficence, respect for dignity, confidentiality and informed consent.

### Results

#### Sociodemographic profile of the study participants

The majority of breast cancer patients were aged between 36-45 years (36.36%) and 46-55 years (41.82%). Most patients resided in urban areas (61.82%). All patients were married (100%). The highest

educational attainment for most patients was higher secondary (34.55%). A large proportion of the patients belonged to nuclear families (74.55%). Most of the patients were homemakers (58.18%). The predominant dietary habit was a mixed diet (69.09%). The majority of the patients were Hindus (58.18%). The second stage of the disease was the most common among the patients (41.82%). Most patients had been diagnosed within the last 1-2 years (56.36%).

**TABLE 1 - FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES**

Demographic variables		Number of Breast cancer Patients	%
Age group	18-25 years	0	0.00%
	26-35 years	0	0.00%
	36-45 years	20	36.36%
	46-55 years	23	41.82%
	>55 years	12	21.82%
Residence	Urban	34	61.82%
	Rural	5	9.09%
	Semi urban	16	29.09%
Marital status	Single	0	0.00%
	Married	55	100.00%
	Widowed	0	0.00%
	Single mother	0	0.00%
Education status	Primary school	15	27.27%
	Higher Secondary	19	34.55%
	Diploma	10	18.18%
	Degree and above	11	20.00%
	Informal education	0	0.00%
Type of family	Nuclear family	41	74.55%
	Joint family	14	25.45%
Occupation status	Homemaker	32	58.18%
	Daily wages	9	16.36%
	Private employment	14	25.45%
	Government employment	0	0.00%
Dietary Habits	Vegetarian	17	30.91%
	Non-vegetarian	0	0.00%
	Mixed diet	38	69.09%
Religion	Hindu	32	58.18%
	Christian	14	25.45%
	Muslim	9	16.36%

	Others	0	0.00%
Stage of the disease	First stage	15	27.27%
	Second stage	23	41.82%
	Third stage	17	30.91%
	Fourth stage	0	0.00%
Year of diagnosis	1-2 years	31	56.36%
	2-5 years	16	29.09%
	>5 years	8	14.55%

**NARRATIVE ANALYSIS TO STUDY THE RANGE OF CHEMOTHERAPY SYMPTOMS MANAGEMENT EXPERIENCED BY BREAST CANCER SURVIVORS**

THEMES	SUBTHEMES	NARRATIONS
Symptoms experiences	Hair loss	Many patients experienced significant hair loss as a common and particularly distressing side effect of chemotherapy, impacting their self-image and emotional well-being.
	Change in taste	Loss of taste was frequently reported by patients undergoing chemotherapy, drastically affecting their appetite and reducing their enjoyment of food, which complicated their nutritional intake.
	Weight fluctuations	Patients reported either maintaining stable body weight or experiencing fluctuations during their treatment, adding complexity to managing their overall health and wellness.
Emotional and Psychological Effects	Isolation and Social Withdrawal	The physical and emotional impacts of chemotherapy often led patients to withdraw socially and stay isolated, which further affected their mental health during the treatment process.
	Coping with Fear and Anxiety	Many patients faced considerable fear and anxiety about their health outcomes; however, they often strove to project bravery to better cope with the stress of their condition.
	Oscillations in Hope and Despair	Undergoing chemotherapy resulted in emotional oscillations between hope and despair for many patients, significantly influencing their psychological state and approach to treatment.
Support	Family Support	Family members, particularly children and spouses, played a critical role in supporting patients through chemotherapy, often acting as primary caregivers and providing emotional and physical assistance.

	Community and Friends	Though sometimes limited, emotional support from friends and the wider community provided much-needed comfort and reassurance during the challenging times of treatment.
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	Medical Support	Medical advice and intervention were essential but elicited mixed feelings among patients, with some questioning the efficacy and side effects of their treatments.
Adaptation and Lifestyle Changes	Dietary Adjustments	Necessary dietary adjustments were a common theme among patients as changes in taste and appetite required them to modify their eating habits significantly to maintain health.
	Activity and Mobility	The effects of chemotherapy often limited patients' physical activities and mobility, impacting their daily routines and quality of life significantly.
	Psychological Resilience	Despite numerous challenges, most patients demonstrated remarkable psychological resilience, adapting to their circumstances with a focus on recovery and maintaining a hopeful outlook.

**Chemotherapy symptom severity**

**TABLE 2 LEVEL OF CHEMOTHERAPY SYMPTOM SEVERITY SCORE**

Level of chemotherapy symptom severity	Cancer patients	
	n	%
Severe	0	0.00%
Moderate	11	20.00%
Mild	44	80.00%
<b>Total</b>	<b>55</b>	<b>100%</b>

The above table represents that none of the patients were severely experienced the chemotherapy symptoms, accounting for 0% of the sample. Moderately experienced the chemotherapy symptoms, comprised 20% of the group, totally 11 individuals. The majority, 80% or 44 patients, were classified as mild level, indicating a generally experienced chemotherapy symptom severity status among the majority of the study participants.

**Associate the level of chemotherapy symptom severity among breast cancer patients receiving chemotherapy with their selected sociodemographic variables.**

The current study identified notable associations among different age groups, finding that individuals over 55 years exhibited an even distribution between mild to moderate symptom severity. There was also a significant correlation with residential status, where urban residents were predominantly well-nourished compared to those in rural and semi-urban areas. Additionally, the year of diagnosis played a crucial role; patients diagnosed within the past 1- 2 years were more often well-nourished, indicating a potential decline in nutritional status as time progresses. Other demographic variables, including marital status, education level, family type, occupation, dietary habits, religion, disease stage, and dietary habits, however, did not show significant associations.



## Discussion

The present study Explored the Chemotherapy symptoms management experiences among Breast Cancer Survivors while Association with Socio Demographic Characteristics. The present study explores the impact of chemotherapy across various themes and subthemes. Under symptom experiences, patients reported significant hair loss, a drastic change in taste affecting nutritional intake, and weight fluctuations, impacting their self- image and overall health. The Emotional and Psychological Effects theme revealed that chemotherapy led to isolation and social withdrawal, fear and anxiety about health outcomes, and emotional shifts between hope and despair, affecting patients' mental health and treatment approach. In terms of Support Systems, family, friends, and medical professionals played crucial roles, offering varying degrees of emotional, physical, and medical support. Finally, the Adaptation and Lifestyle Changes theme highlighted necessary dietary adjustments, reduced activity and mobility, and the psychological resilience exhibited by patients as they adapted to their circumstances, focusing on recovery and maintaining a hopeful outlook. The findings that emphasize the psychological burden of physical changes, highlighting the necessity for integrated supportive care strategies that address both the physical and emotional needs of patients undergoing Chemotherapy. This highlights the importance of targeted nutritional support programs that consider the demographic and socio- economic backgrounds of patients to enhance their overall treatment outcomes and quality of life during chemotherapy.

## Implications and recommendations

Nursing practice should integrate regular nutritional assessments for breast cancer patients undergoing chemotherapy to monitor and address potential imbalances promptly. Develop comprehensive care protocols that integrate routine psychological assessments and support into the chemotherapy treatment plan to improve patient well-being. Enhance nurse training in nutritional management specific to oncology patients to better address the frequent dietary issues caused by chemotherapy.

## Conclusion

Nurses play a pivotal role in the holistic care of breast cancer patients undergoing chemotherapy, as this study has underscored. The findings reveal that while the physical side effects like hair loss and taste changes are pronounced, the emotional toll, including anxiety and isolation, significantly impacts patient well-being. This research advocates for the adoption of evidence-based practices that incorporate both qualitative and quantitative data to address better the multifaceted challenges faced by patients. Ultimately, nurses are at the forefront of implementing these practices, making them essential contributors to improving the quality of life and treatment outcomes for breast cancer patients.

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