

Quality of Life Among Women with Breast Cancer Visiting the Cancer Centre of A Tertiary Care Hospital

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Abstract

Breast cancer is the most common cancer among women in India and a leading cause of cancer-related death, often resulting in impaired physical, psychological, social and spiritual wellbeing and thus poor quality of life (QOL). The present study aimed to assess the quality of life among women with breast cancer. A quantitative, non-experimental descriptive research design was used among 210 women diagnosed with breast cancer within the last 1-5 years and visiting the cancer centre of a tertiary care hospital in Ludhiana, Punjab. Purposive sampling was adopted and data were collected using the Quality of Life Instrument Breast Cancer Patient Version (Ferrell, Grant, Dow-H, 1995) through interview and self-report methods. Data were analyzed using descriptive and inferential statistics (SPSS version 25). Half of the women were aged 41-55 years with a mean age of 53.75 ± 11.04 years, and the majority were married, Hindu, non-working/homemakers, from nuclear families, urban habitat, and belonged to the lower middle class. The overall mean QOL score was 179.77 ± 7.55 , indicating an average quality of life. Age and habitat showed a statistically significant association with quality of life ($p < 0.000$). The study concluded that most women with breast cancer had average quality of life with poor physical wellbeing and average psychological, social and spiritual wellbeing, highlighting the need for targeted Information, Education and Communication strategies to improve their quality of life.

Keywords: Breast Cancer, Quality Of Life, Women with Breast Cancer

Introduction

Breast cancer (BC) is basically defined as disease in which abnormal cells grow in an uncontrolled way. It begins in the breast tissue, epithelial lining of the lobule, ducts and nipple of the breast. It could be unilateral (involving one breast) and Bilateral (involving both breasts).¹ Breast cancer has now surpassed lung cancer as the leading cause of global cancer incidence in 2020, with an estimated 23 million new cases, representing 11.7% of all cancer cases and it has become the 2nd most frequent cancer and the leading cause of death among women.² Epidemiological studies have shown that the global burden of BC is expected to exceed approximately 2 million by the year 2030. In India, it maintains a statistically inclined position among 14% of women, i.e. 1 in 28 women is affected by breast cancer, and urban women are more affected than rural women (Cytercare 2018. WHO 2021) may be related to their lifestyle.³ Globally, the proportion of breast cancer cases is increasing day by day. In 2020, the number of

women diagnosed with breast cancer was 2.3 million and related deaths were 685,000. Breast cancer is the most prevalent cancer in the world, as there were 7.8 million living women diagnosed with breast cancer at the end of 2020.⁴ Breast cancer arises from a complex interplay of genetic, hormonal, environmental, and lifestyle factors. Genetic predisposition plays a significant role, with inherited mutations in genes like BRCA1 and BRCA2 substantially elevating the risk. However, most cases are sporadic, influenced by various factors. Advancing age also increases susceptibility, with the majority of cases occurring in women over 50. A family history of breast cancer, especially among close relatives, raises the risk, as does personal history of the disease or certain benign breast conditions. Hormonal influences, such as early menstruation, late menopause, or prolonged hormone replacement therapy, contribute to risk, alongside reproductive factors like nulliparity or delayed childbirth.⁵ Exposure to radiation, particularly during chest irradiation in youth, heightens susceptibility. Lifestyle choices, including obesity, excessive alcohol consumption, physical inactivity and a high-fat diet, are additional modifiable risk factors. Environmental exposures to pollutants or chemicals may also play a role, though their impact requires further research.⁶ The quality of life (QOL) of women with breast cancer is severely reduced due to cancer symptoms and the side effects of treatments.⁷ Physical effects include pain, swelling, redness, breast lumps, skin changes resembling an orange peel, underarm swelling, and breast discomfort. Dry, cracked skin, especially around the nipples, altered breast color, and nipple discharge may also occur.⁸ Treatment modalities for breast cancer vary depending on the stage, type of cancer, and individual patient factors. However, advances in surgical techniques and breast reconstruction options aim to improve outcomes and quality of life post-surgery.⁴ Supportive care measures, including medication and lifestyle adjustments, can help manage these side effects and improve quality of life during treatment. Hormone therapy, targeted therapy and immunotherapy may have fewer side effects compared to traditional chemotherapy but can still affect quality of life through symptoms like hot flashes, joint pain, and fatigue. However, these treatments can also provide significant benefits in terms of disease control and survival, which can positively impact quality of life in the long term.⁹ In addition to physical effects, breast cancer and its treatments can also affect emotional and psychosocial well-being. Anxiety, depression, fear of recurrence, and changes in relationships are common challenges faced by breast cancer survivors.¹⁰ Psychosocial support, counselling and peer support groups can play a crucial role in addressing these concerns and improving overall quality of life. Overall, the goal of breast cancer treatment is not only to eradicate the disease but also to optimize quality of life by minimizing treatment-related side effects and addressing the holistic needs of patients.¹¹

Problem statement

A study to assess the quality of life among women with breast cancer visiting cancer centre of a tertiary care hospital, Ludhiana, Punjab.

Aim

To assess the quality of life among women with breast cancer.

Objectives

1. To assess the quality of life among women with breast cancer.
2. To determine the association between quality of life with selected socio-demographic

variables among women with breast cancer.

3. To plan and disseminate an IEC material (pamphlet) on strategies to improve quality of life.

Operational definitions

1. **Quality of life:** It refers to the standard of living of women with breast cancer in various domains like physical, psychological, social and spiritual as assessed by Quality of Life Instrument- Breast Cancer Patient Version, 1995.
2. **Women with breast cancer:** It refers to females as clinically diagnosed cases of breast cancer from last 1-5 years and who are undergoing treatment from last one year.

Materials and methods

Quantitative research approach & non-experimental descriptive research design was used to assess the quality of life among women with breast cancer (diagnosed from last 1-5 years). Data was collected from a sample of 210 women with breast cancer visiting cancer centre of a tertiary care hospital, Ludhiana, Punjab by using purposive sampling technique. Responses were collected by self-report method using Quality of Life Instrument- Breast Cancer Patient Version (by Ferrell, Grant, Dow- H, 1995). Quantitative data was obtained by using interview & self-report technique. Data was tabulated and analysed using descriptive and inferential statistics (SPSS version 25).

Inclusion criteria: All women with breast cancer who were:

- present at the time of data collection
- diagnosed from last 1-5 years.

Exclusion criteria:

- Women who were not willing to participate.

Ethical consideration

Ethical clearance was undertaken from Institutional Ethical committee. Informed written consent was taken from the subjects prior to data collection and assured that their information would be kept confidential. Subjective information sheet was also provided as per the language ability of subjects to explain the purpose, procedure and benefits of the study.

Analysis and interpretation of data

Analysis and interpretation of the data was done in accordance with the objectives of the study using descriptive statistics (frequency, percentage distribution, graphs and inferential statistics (ANOVA and t-test) at 0.05 level of significance & categorized under different sections.

SECTION - I (A)

SOCIODEMOGRAPHIC PROFILE

Table 1: Frequency and percentage distribution of women with breast cancer as per their Socio-demographic variables.

N=210

Sociodemographic variables	f (%)
Educational Status Illiterate	16 (7.5)

Elementary	61 (29.0)
Higher secondary	83 (39.5)
Graduate and above	50 (24.0)
Occupation	
Not working	181 (86.3)
Working/ homemaker	29 (13.7)
If yes specify (n=29)	
Teacher	19 (65.4)
Professionals	4 (14.0)
Social worker	3 (10.3)
Clerk	3 (10.3)
Living status	
With husband only	49 (23.4)
With in-laws	7 (3.3)
With husband and children	142 (67.6)
With parents	12 (5.7)
Dietary habits	
Vegetarian	81 (38.6)
Non – vegetarian	110 (52.4)
Lacto ova vegetarian	19 (9.0)
Socioeconomic status (According to Kuppuswamy socioeconomic scale 2023)	
Upper middle	56 (26.7)
Lower middle	125 (59.5)
Upper lower	29 (13.8)

Table 1 depicts the socio-demographic variables which showed that mean age of women with breast cancer was found to be 53.75 ± 11.04 years. Majority 83 (39.5%) women had secondary education, 61 (29.0%) elementary level of education, 50 (24.0%) were graduate and above and 16 (7.5%) illiterate. Majority 181 (86.3%) were not working/homemakers. Maximum 142 (67.6%) were living with their husband and children followed by 49 (23.3%) living with their husband only. More than half 110 (52.4%) women were non- vegetarian, 81 (38.6%) were vegetarian and only few 19 (9.0%) were lacto-ova vegetarian. As per socio-economic status, more than half 125 (59.5%) women belonged to lower middle class, followed by 56 (26.7%) from upper middle class.

SECTION - I (B)

CLINICAL PROFILE

Table 2: Frequency and percentage distribution of women with breast cancer as per their clinical variables.

N=210

Clinical variables	f (%)
BMI (in kg/m²) as per WHO	
Underweight < 18.5	7 (3.3)
Healthy 18.5- 24.9	127 (60.5)

Overweight	25- 29.9	62 (29.5)
Obese	>30	14 (6.7)
Occurrence of breast cancer		
Bilateral		7 (3.4)
Unilateral		203 (96.6)
Specify the site of unilateral (n= 203)		
• Left breast		188 (92.6)
• Right breast		15 (7.4)
Stage of breast cancer		
Stage I		70 (33.3)
Stage II		92 (43.8)
Stage III		38 (18.1)
Stage IV		10 (4.8)
History of medical illness		
No		160 (76.0)
Yes		50 (24.0)
Specification of history of medical illness (n=50)*		
HTN		27 (54.0)
Thyroid		18 (36.0)
Diabetes Mellitus		20 (40.0)
History of surgery		
No		140 (66.7)
Yes		70 (33.3)
Specification of surgical history (n=70)*		
Hysterectomy		40 (57.1)
Appendectomy		2 (2.85)
C- Section		35 (50.0)
Mastectomy		10 (14.2)
History of substance abuse		
No		210 (100)
Type of cancer treatment received		
Chemotherapy		131 (62.4)
Radiotherapy+ Chemotherapy		79 (37.6)

Multiple responses (*)

Table 2: Clinical profile showed maximum 127 (60.5%) women had normal BMI, 96.6% had unilateral breast cancer, 92.6% had left side breast involved, 43.8% had Stage-II breast cancer, 76.2% were with no history of medical illness, and 66.7% had no surgical history, no one had any history of substance abuse and 62.4% received chemotherapy only as the type of treatment.

SECTION- II

Table 3: Frequency, percentage distribution and mean score of overall quality of life among women with breast cancer.

N=210

Level of Quality of Life	Score *	f (%)	Mean± S. D	Mean (%)
Good	>193	48 (22.86)	209.94 ± 28.46	66.22
Average	164- 192	111 (52.85)	179.77 ± 7.55	56.70
Poor	<163	51 (24.28)	150.13 ± 6.66	47.35

Overall QOL Mean ± SD = 179.48 ± 25.42

Maximum obtained score: 317

(*as per quartile)

Minimum obtained score: 161

Table 3 (a): Frequency, percentage distribution and mean score of physical wellbeing among women with breast cancer.

N=210

Domains of QOL (Physical well-being)	Score *	f (%)	Mean± S. D	Mean (%)
Good	>36	42 (20.0)	39.83 ± 5.11	72.41
Average	28- 35	68 (32.3)	31.66 ± 2.25	57.56
Poor	<27	100 (47.7)	24.57 ± 2.01	44.67

Total Mean ± SD = 32.81 ± 6.47

Maximum obtained score: 55

(*as per quartile)

Minimum obtained score: 27

Table 3 (b): Frequency, percentage distribution and mean score of psychological wellbeing among women with breast cancer.

N=210

Domains of QOL (Psychological well-being)	Score*	f (%)	Mean± S. D	Mean (%)
Good	>88	54 (25.7)	98.74 ± 13.4	66.26
Average	67- 87	109 (51.0)	76.41 ± 6.46	51.28
Poor	<66	47 (22.3)	63.12 ± 2.73	42.36

Total Mean ± SD = 79.33 ± 15.16

Maximum obtained score: 149

(*as per quartile)

Minimum obtained score: 66

Table 3 (c): Frequency, percentage distribution and mean score of social wellbeing among women with breast cancer.

N=210

Domains of QOL (Social well-being)	Score*	f (%)	Mean± S. D	Mean (%)
Good	>38	43 (20.4)	43.50 ± 6.38	64.92
Average	29- 37	110 (52.5)	33.29 ± 2.60	49.68
Poor	<28	57 (27.1)	26.23 ± 2.45	39.14

Total Mean ± SD = 34.57 ± 7.27

Maximum obtained score: 67

(*as per quartile)

Minimum obtained score: 28

Table 3 (d): Frequency, percentage distribution and mean score of spiritual wellbeing among women with breast cancer.

N=210

Domains of QOL (Spiritual well-being)	Score*	f (%)	Mean± S. D	Mean (%)
Good	>36	52 (24.7)	38.50 ± 4.03	70.0
Average	30- 35	96 (45.7)	32.81 ± 1.69	59.65
Poor	<29	62 (29.6)	25.30 ± 2.46	46.0

Total Mean ± SD = 32.74 ± 5.70

Maximum obtained score: 55

(*as per quartile)

Minimum obtained score: 29

Table 3 to 3 (d): depicts the majority 111 (52.85%) women had average overall quality of life with mean score 179.48 ± 25.42. Domain wise, as per physical wellbeing, majority 100 (47.7%) had poor quality of life with mean score (24.57±2.01) while as per psychological wellbeing, majority 109 (51.0%) had average quality of life with mean score (76.41±6.46). In related to social wellbeing, majority 110 (52.5%) had average quality of life with mean score (33.29 ±2.60) and in case of spiritual wellbeing, majority 96 (45.7%) had average quality of life with mean score (32.81± 1.69)

Table 4: Association of Quality of life among women with breast cancer with socio-demographic variables.

N=210

Sociodemographic variables	n	Mean ± S. D	F/t value	p value	df
Educational Status					
Illiterate	16	181.06 ± 39.60	F= 1.31	0.27 ^{NS}	209
Elementary	61	179.73 ± 21.01			
Higher secondary	83	175.81 ± 24.19			
Graduate and above	50	184.74 ± 26.55			
Occupation					
Not working	181	178.63 ± 24.70	t= 1.20	0.22 ^{NS}	208
Working/ homemaker	29	184.75 ± 29.44			
Living status					
With husband only	49	184.75 ± 33.05	F= 1.41	0.24 ^{NS}	209
With in-laws	7	177.85 ± 22.25			
With husband and children	142	178.59 ± 22.46			
With parents	12	169.33 ± 23.02			
Dietary habits					
Vegetarian	81	178.98 ± 25.97	F= 0.41	0.65 ^{NS}	209
Non – vegetarian	110	178.96 ± 23.14			
Lacto- ova vegetarian	19	184.57 ± 35.10			

Socioeconomic status (According to Kuppaswamy socioeconomic scale 2023)					
Upper middle	56	182.01 ± 18.47	F= 0.77	0.46 ^{NS}	209
Lower middle	125	177.68 ± 26.60			
Upper lower	29	182.34 ± 31.38			

*significant $p \leq 0.05$

NS (non-significant)

Maximum quality of life score: 317

Minimum quality of life score: 161

Table 4: depicts the association of quality of life (QOL) among women with breast cancer with socio-demographic variables. As per educational status, graduate and above had higher mean QOL score (184.74 ± 26.55). As per occupation, women not working had higher mean QOL score (184.75 ± 29.44). In respect to living status, women living with husband only had higher mean QOL score (184.75 ± 33.05). In relation to dietary habits, vegetarian had higher mean QOL score (178.98 ± 25.97). As per socioeconomic status, upper lower class had higher mean QOL score (182.34 ± 31.38). Overall, the differences in mean quality of life scores across these socio-demographic variables were statistically non-significant ($p > 0.05$)

Table 5: Association of overall quality of life among women with breast cancer with clinical profile.

N=210

Clinical Profile	n	Mean ± S. D	F/t value	p value	df
BMI (in kg/m²) as per WHO					
Underweight < 18.5	7	180.85 ± 10.05			
Healthy 18.5- 24.9	127	180.43 ± 28.37	F= 0.61	0.60 ^{NS}	209
Overweight 25- 29.9	62	179.35 ± 20.59			
Obese >30	14	170.71 ± 25.42			
Occurrence of breast cancer					
Unilateral	203	179.33 ± 25.60	t= -0.44	0.65 ^{NS}	208
Bilateral	7	183.71 ± 20.71			
Stage of breast cancer					
Stage I	70	184.74 ± 22.40			
Stage II	92	176.51 ± 25.57	F= 2.13	0.09 ^{NS}	209
Stage III	38	180.00 ± 29.08			
Stage IV	10	168.00 ± 25.42			
History of medical illness					
No	160	181.05 ± 22.65	t= -1.61	0.10 ^{NS}	208
Yes	50	174.44 ± 26.10			
History of surgery					
No	140	180.80 ± 28.36	t= -1.06	0.28 ^{NS}	208
Yes	70	176.82 ± 18.06			
Type of cancer treatment received					
Chemotherapy	131	179.09 ± 22.89	t= 0.07	0.78 ^{NS}	208

Radiotherapy Chemotherapy	+	79	180.11 ± 29.28			
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*significant $p \leq 0.05$

NS (non-significant) $P \geq 0.05$

Maximum quality of life score: 317

Minimum quality of life score: 161

Table 5: depicts association of quality of life with clinical variables among women with breast cancer. Mean quality of life scores were highest among underweight women (180.85 ± 10.05) and women with bilateral breast cancer (183.71 ± 20.71). As per stage of cancer, women with stage I had higher mean quality of life score of (184.74 ± 22.40). In relation to history, higher mean quality of life score was among women without medical illness (181.05 ± 22.65) and among those who had history of surgery (180.80 ± 28.36). Related to type of treatment, women receiving combined radiotherapy and chemotherapy had higher mean quality of life score (180.11 ± 29.28). However, the association of overall quality of life with clinical profile variables was statistically non-significant ($p > 0.05$)

Discussion: It was conducted according to objectives of the study. The findings of the study supported by **Narayanan G, Sabri Awadallah M, Krishnasamy R (2023)** result showed that 42 (70%) had average quality of life and 18 (30%) had poor quality of life. Several areas of QOL were assessed, including physical wellbeing (mean score of 38.47), psychological wellbeing (mean score of 60.58), social wellbeing (mean score of 38.10), and spiritual wellbeing (mean score of 38.58).¹²

The findings of the study supported by **Al Zahrani A M, Alalawi Y, Yagoub U, Saud N, Siddig K (2019)** revealed that the subscale measuring physical well-being had the highest score (7.65 ± 0.71), followed by the subscale measuring spiritual well-being mean score of (7.19 ± 0.66), the subscale measuring psychological wellbeing mean score of (7.09 ± 0.30) and the subscale measuring social concerns mean score of (7.02 ± 0.41).¹³

Similarly, **Pakseresht S, Ingle GK, Garg S (2011)** revealed that the overall QOL mean score was 6.04. Among all the domains, social well-being had the lowest mean score of 4.61 and the average score for physical, psychological, and spiritual well-being were 4.98, 7.24 and 7.34, respectively.¹⁴

As per association of sociodemographic variables, similar findings by **Damodar G, Smitha T, Gopinath S, Subash V (2013)** revealed that there was a substantial ($p < 0.05$) impact on the functional scale of breast cancer patients in terms of physical, role function, future perspective, and fatigue, sleeplessness, arm problems, and upset due to hair loss. Physical, social function, body image, outlook on the future, sleeplessness, and symptoms related to the arms and breasts were the significant determinants of global health status ($p < 0.005$).¹⁵

The findings of the study by **Narayanan G, Sabri Awadallah M, Krishnasamy R (2023)** supported that there was significant relationship between place of residence, occupation with QOL as $p < 0.05$. Additionally, a correlation was observed between the clinical variables, including the cancer's duration and stages ($p < 0.05$) and treatment type ($p < 0.01$).¹²

The results of the study were supported by **Avis Nancy E, Crawford S, Manuel J (2023)** inferred that majority (70%) of women expressed dissatisfaction with their overall pain and appearance. Age was a significant predictor of hot flashes ($p < 0.0007$), pain during sexual activity ($P < 0.02$), and problems controlling one's bladder ($p < 0.002$). Compared to a younger, non-patient population, global quality of life was considerably poor ($p < 0.0001$).¹⁶

Conclusion

The study showed that majority (53%) had average quality of life among women with breast cancer. On the other aspect, almost half (48%) of women with breast cancer had poor quality of life in physical wellbeing and (51%) had average quality of life in psychological wellbeing, (53%) had average quality of life in social wellbeing and (46%) had average quality of life in spiritual wellbeing.

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