Original Article

Quality of Life in Women Battling Breast Cancer

Health-Related Quality of Life in Women Battling Breast Cancer

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ABSTRACT

Objective: To assess quality of life in women with breast cancer by examining their sociodemographic and health profiles and determining the relationship between these factors and quality of life.

Study Design: Cross-sectional descriptive study

Place and Duration of Study: This study was conducted at the Marjan Medical City's Oncology Centre, Iraq from 1st April 2024 to 9th February 2025.

Methods: This cross-sectional descriptive study was conducted at Marjan Medical City's Oncology Centre, Iraq and 200 women with breast cancer were enrolled.

Results: 26.5% women between 50-59 years of age, 76% women were married, 29% have bachelors degree, 61.5% were belonged to urban areas 69% women were unemployed. The majority of applicants lived with family (93%). 27.5% had a first-degree comparative with breast cancer, whereas 54.5% had no chronic diseases and 51.5% were overweight. 42% were spotted within the earlier 1-2 years and 51% were at phase II diseases. 59.5% women treated with radical mastectomy and 53% received both radiotherapy and chemotherapy and moderate perceived social support. No association were founded among quality of life and sociodemographic factors. However, health-related issues showed solid correlations, time since diagnosis ($p=0.000$), surgery type ($p=0.002$) and type of treatment ($p=0.003$) were all significantly accomplished to quality of life.

Conclusion: The sociodemographic issues did not influence quality of life, health-related factors such as surgical intervention, diagnosis duration and type of treatment had a significant influence. Social support levels were moderate among participants.

Key Words: Beast-cancer, Quality of life, Sociodemographic factors, Health information, Social support

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INTRODUCTION

Health-related quality of life (QoL) is a multidimensional concept that captures the overall wellbeing of individuals in relation to their health status. It includes physical, mental, emotional and social functioning and reflects how a person's health affects their ability to live a fulfilling life. For breast cancer patients, health-related QoL is a crucial outcome as their QoL can be influenced by symptoms like pain, fatigue and psychological distress (e.g., anxiety, depression).[1,2]

Health-related QoL measures wellbeing related to or affect by the presence of a disease or treatments and it generally consist of a number of domains including physical functioning, psychological wellbeing such as levels of anxiety and depression, and social support. Ongoing symptoms, side effects of treatments, recurrence often results in a feeling of distress that affects physical and psychological functioning and impacts on lifestyle and social engagements of patients with breast cancer.[3]

Patients with breast cancer experience physical symptoms and psychosocial distress that adversely affect their health-related QoL. The World Health Organization defined health-related quality of life as involving a person's physical health, psychological state, degree of independent, social relationships, personal beliefs and environment.[4]

Health-related QoL refers to an individual's perceived physical, emotional and social wellbeing in relation to their health status, particularly in the context of chronic illnesses like cancer. It is a multidimensional idea that includes numerous key areas, including physical functioning, social relationships, emotional stability, and the capability to involve in regular daily activities. For breast cancer patients, health-related QoL mirrors not only the straight influence of the disease and its treatments, such as chemotherapy, radiation and surgery but also the wider consequences on their social interactions, mental health, and general life satisfaction.[5]

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Breast cancer is one of the most common cancers affecting women worldwide, with significant implications for both physical and emotional well-being. The journey from diagnosis through treatment and survivorship involves a range of challenges, including surgery, chemotherapy, radiation, and hormonal therapies, all of which can impact a patient's quality of life. The physical effects of breast cancer treatments such as fatigue, pain, and changes in body image are often compounded by psychological distress, including anxiety, depression, and fear of recurrence.[6]

METHODS

A descriptive cross-sectional study was conducted at Marjan Medical City, Oncology Cancer Centre, Babylon Province from 1st April 2024 to 9th February 2025 vide letter No. 4545/QM/Approval/3rvfDVDFG dated March 11, 2024 with non-probability (purposive sampling) 200 women with breast cancer with enrolled. The sociodemographic characteristics include age, occupation, education level, economic status, marital status and residence were noted. General information related to women health included having children, number of children lactation, women living with, age of menarche, first-degree relative have breast cancer, have chronic disease and which type, body mass index (kg/m^2), duration since diagnosis, stage of breast cancer, surgical intervention, type of surgery, undergoing other type of treatment. Health related quality of life scale/breast cancer patient: The quality of life-breast cancer (QOL-BC) instrument is composed of 28 items representing the two dimensions of HRQoL: physical wellbeing (seven items), psychological wellbeing (21 items). All items within each subscale are summed separately, and mean scores are calculated for each subscale. In addition, a total HRQoL mean score can be calculated. A higher overall mean score corresponds to better HRQoL. A face to face interview was conducted with women to complete the information. The data was analyzed by SPSS-23.

RESULTS

Mean age was 49.98±13.50, 76% of women were married, 29% of them had Bachelor's degree education, 61.5% urban resident, 69% unemployed, 54.5% had satisfied for something economic status. 81.5% of women had children, 25.5% of women had 1-3 children, 93% living with family, 27.5% had first degree relative breast cancer, 54.5% of women hadn’t chronic disease, 51.5% overweight, 42% of women had 1-2 years of disease diagnosis, 51% of women at 2nd stage of cancer, 59.5% of women had radical mastectomy, 53% of had chemo and radiotherapy (Table 1).

The findings of table 2 related to women response to physical health domain shows that women had mean at high level of assessment in items (1,3,6, and 7) and moderate level of assessment in items (2,4, and 5).

Table No. 1: Distribution of demographic characteristics of women (n=200)

Variable	No.	%
Age (years): 20-29	21	10.5
30-39	44	22.0
40-49	28	14.0
50-59	53	26.5
60-69	35	17.5
>70	19	9.5
Marital status: Married	152	76.0
Single	23	11.5
Divorced	7	3.5
Separated	4	2.0
Widow	14	7.0
Educational level		
No read & write	36	18.0
Read & write	24	12.0
Primary school	33	16.5
High school	48	24.0
Bachelors	59	29.5
Residency: Rural	39	38.5
Urban	161	61.5
Occupation: Employee	42	21.0
Un-employee	140	70.0
Retired	18	9.0
Economic status: Satisfied	38	19.0
Satisfied for something	109	54.5
Non-satisfied	53	26.5
Have children: Yes	163	81.5
No	37	18.5
Number of children: No	119	59.5
1-3	51	25.5
4-6	23	11.5
>7	7	3.5
Women living: Alone	14	7.0
Family	186	93.0
First degree relative have breast cancer		
Yes	55	27.5
No	145	72.5
Age of menarche: 8-11	85	42.5
12-15	108	54.0
16 & above	7	3.5
Stage of Breast cancer		
1st stage		21
2nd stage		51
3rd stage		17
4th stage		11
Surgery		
Simple mastectomy		7.5
Radical mastectomy		59.5
Skin conservating surgery		3.5
No		14.5
Treatment type: Chemotherapy	41	20.5
Radiotherapy	5	2.5
Chemo & radiotherapy	106	53.0
Hormone therapy	48	24.0

Table 3 showed the physical health women had mean and standard deviation (2.990±0.656), in regard to psychological wellbeing women had mean and standard deviation (1.382±0.189). Finally, according to quality of life overall the mean and standard deviation (2.224±0.213).

There is highly significant difference between women health information (time of diagnosis, surgery and treatment type) and quality of life at p value 0.000, 0.002, and 0.003 respectively (Table 4). There is highly significant difference between women health information (time of diagnosis, surgery and treatment type) and quality of life at p value 0.000, 0.002, and 0.003 respectively (Table 5).

Table No. 2: Distribution of women response to quality of life (physical health domain)

Item	Severe		Moderate		Mild		Not present		Mean	Ass.
	No.	%	No.	%	No.	%	No.	%		
Fatigue	74	37.0	96	48.0	29	14.5	1	0.5	3.22	H
Appetite changes	61	30.5	84	42.0	42	21.0	13	6.5	2.97	M
Aches or pain	76	38.0	86	43.0	30	15.0	8	4.0	3.15	H
Sleep changes	68	34.0	73	35.5	44	22.0	15	7.5	2.87	M
Weight gain	32	16	51	25.5	42	21.0	75	34.5	2.20	M
Vaginal dryness/menopausal symptoms	129	64.5	23	11.5	12	6.0	36	18.0	3.23	H
Menstrual changes or fertility	139	69.5	9	4.5	6	3.0	46	23.0	3.21	H

Ass. = assessment, L=low (1-2), M=moderate (2.01-3), H=high (3.01-4)

Table No. 3: Distribution of women response to quality of life domains by mean and standard deviation

Scale	No.	Mean	Standard deviation	Minimum	Maximum
Physical health	200	2.990	.656	1.00	4.00
Psychological well being	200	1.382	.189	1.00	1.91
Quality of life	200	2.224	.213	1.63	2.65

Table No. 4: Difference between women demographic characteristic and quality of life

Variable		No.	Mean	Standard deviation	Significance
Age	20-29	10	2.22	.30	F=.579 P=.716 NS
	30-39	40	2.18	.20	
	40-49	48	2.25	.21	
	50-59	53	2.21	.19	
	60-69	30	2.24	.22	
	70 & more	19	2.21	.23	
Marital status	Married	152	2.22	.21	F=.324 P=862 NS
	Single	23	2.20	.22	
	Divorced	7	2.24	.16	
	Separated	4	2.31	.10	
	Widow	14	2.19	.22	
Education level	Illiterate	36	2.17	.21	F=.942 P=.441 NS
	Read & write	24	2.25	.22	
	Primary school	33	2.26	.22	
	High school	48	2.21	.19	
	Bachelor's degree	59	2.22	.21	
Residency	Rural	77	2.26	.22	T=.066, P=.948 NS
	Urban	123	2.23	.020	
Occupation	Employee	42	2.22	.16	F=.318 P=.331 NS
	Students	2	2.47	.11	
	Unemployed	138	2.21	.21	
	Retired	18	2.26	.22	
Economic status	Satisfied	38	2.20	.25	F=.159 P=.853 NS
	Satisfied or something	109	2.24	.23	
	Non satisfied	53	2.23	.21	

F=calculated value of ANOVA test, T= t test, P=p-value, NS= no significant, HS=highly significant

Table No. 5: Difference between women health information and quality of life

Variable		No.	Mean	Standard deviation	Significance
Have children	Yes	163	2.27	.21	T=.432, P=.666 NS
	No	37	2.21	.19	
No. of children	None	119	2.20	.22	F=.631 P=.596 NS
	1-3	51	2.23	.19	
	4-6	23	2.26	.24	
	7 & more	7	2.25	.17	
Women living with	Alone	14	2.22	.12	T=.022, P=.983 NS
	Family	186	2.28	.21	
1st degree relative have breast cancer	Yes	55	2.21	.20	T=.416, P=.678 NS
	No	145	2.28	.22	
You have chronic disease	Hypertension	43	2.25	.26	F=.664 P=.575 NS
	Diabetes mellitus	13	2.47	.21	
	Hypertension & DM	35	2.25	.22	
	No	109	2.21	.23	
Body mass index	Normal weight	42	2.22	.18	F=2.683 P=.071 NS
	Overweight	103	2.25	.24	
	Obese	55	2.17	.23	
Time diagnosis (years)	<1	82	2.11	.23	F=7.133 P=.000 HS
	1- <2	84	2.22	.17	
	2-5	30	2.29	.18	
	>5	4	2.14	.12	
Stage breast cancer	1st	42	2.27	.21	F=.91 P=.437 NS
	2nd	102	2.06	.23	
	3rd	34	2.14	.17	
	4th	22	2.16	.16	
Surgery	Simple mastectomy	15	2.14	.13	F=4.416 P=.002 HS
	Radical mastectomy	119	2.06	.21	
	Skin conserving	7	2.15	.13	
	Breast conserving	24	2.17	.22	
	No	35	2.16	.24	
Treatment type	Chemotherapy	41	2.19	.24	F=4.797 P=.003 HS
	Radiotherapy	5	2.10	.24	
	Chemo & Radiotherapy	106	2.26	.21	
	Hormone therapy	48	2.22	.15	

F=calculated value of ANOVA test, T= t test, P= p-value, NS= no significant, HS=highly significant

DISCUSSION

This study found no significant association between sociodemographics age, marital status, education, residency, occupation, and economic status and overall quality of life (QoL), with p-values ranging from 0.331 to 0.948. These results suggest that, during active treatment and early recovery, the cancer experience itself may overshadow demographic influences. This is supported by Abu-Helalah et al[7], who observed that once disease stage and treatment burden were accounted for, sociodemographic factors became statistically insignificant predictors of QoL.

Al-Naggar et al[8] reported that older age correlated with lower QoL among Jordanian breast cancer survivors, particularly in physical domains, attributing this to comorbidities and treatment side effects. Similarly, Hassan et al[9] found that unemployment was a strong predictor of poorer QoL in Egyptian patients due to financial strain and social role disruption. The divergence highlights the importance of context, timing, and other mediating factors such as social support and cultural expectations.

In relation to burden of physical symptoms, numerous treatment-related problems appeared as prominent alarms. Aches, fatigue and pain, menopausal symptoms and vaginal dryness, and menstrual fluctuations or fertility problems were the furthermost severe, with mean scores above 3.01. Fatigue was stated as severe by 37% of contributors, while 38% informed severe pain and aches. Menopausal symptoms and vaginal dryness were valued severe by 64.5% of women, and 69.5% stated severe fertility-related indications. Sleep and appetite changes were reported as moderate, together with a mean score of 2.97, while weight increasing was a lesser amount of severe (M=2.20). These results repeat international literature. Schmidt et al[10] and Lee et al[11] highpoint pain and fatigue as prevalent across treatment types and closely linked to reduced physical and social functioning. Abu-Helalah et al (2024) highlighted how treatment-induced menopause intensely influences quality of life in premenopausal Arab women, mainly given cultural sensitivities around femininity and fertility.

The mean scores through quality of life fields presented that physical health had the uppermost mean score (M=2.990), whereas psychological wellbeing had the lower most cut (M=1.382). General QoL was moderately valued (M=2.224). The heavy emotional and physical toll, the low psychological wellbeing score probable influenced by opposite scoring of adverse emotional states proposes that these worries manifest as depression and anxiety, it is not sufficient to fully alleviate the psychological burden as supported by Kim et al.[12]

When discovering personal health features, no significant association found between QoL and having kids in the study, living arrangements, the number of children and family history of cormorbidities for example diabetes and hypertension, or breast cancer. Menarche age was also not related to QoL. These outcomes are consistent with Abu-Halalah et al[7], who stated that family construction did not directly influence QoL if referred by perceived social support. Likewise, whereas family history is a identified risk factor, it seems to have slight direct effect on QoL throughout active treatment, in line with the results of Hassan et al.[9] The absence of implication for chronic situations contrasts with Greenlee[13], who labeled long-term harmonious effects on fatigue and inflammation n survivorship. Although body mass index did not influence statistical significance (p-0.071), there was a tendency toward lesser QoL in obese contributos, which could reflect cultural alterations in body perception or a timing effect linked treatment stage.

Several clinical variables emerged as significant predictors of QoL. Time since diagnosis showed a strong relationship, with women diagnosed within the past year reporting the lowest QoL (M=2.149), while those diagnosed over five years ago had the highest (M = 2.386), F=7.133, p=.000. This aligns with the literature on adjustment phases, where acute distress, treatment side effects, and fear dominate the initial phase, as described by Lebel[14] and Hersch et al.[15] Over time, survivors develop coping mechanisms, regain function, and reintegrate into daily life. Nonetheless, long-term survivors continue to face issues such as lymphedema and "scanxiety," indicating the need for enduring support systems, as noted by Smith.[16]

Surgical type also significantly influenced QoL (F=4.416, p=0.002). Radical mastectomy was associated with lower QoL (M=2.272) compared to breast-conserving (M = 2.152) and skin- conserving procedures (M = 2.060). The psychological toll of radical mastectomy linked to altered body image, perceived loss of femininity, and potential sexual dysfunction has been well documented.[17] Although breast-conserving surgeries preserve physical appearance, they can also generate concerns over recurrence risk, especially in the absence of clear margins, as noted by Pinto.[18]

Treatment modality had the most significant impact on QoL (F=4.797, p=0.003). Participants who underwent combined chemotherapy and radiotherapy reported the lowest QoL (M=2.266), reflecting the cumulative burden of side effects such as fatigue, skin toxicity, and neuropathy. In contrast, those receiving hormone therapy (M=2.225) or radiotherapy alone (M=2.109) reported comparatively higher QoL. Chemotherapy's chronic effects, including "chemo brain" and peripheral neuropathy, are well documented and substantially interfere with daily life.[19,20] These results underscore the importance of balancing treatment intensity with post-treatment quality of life, especially in early-stage patients.

Healthcare-related variables clearly had a dominant influence on QoL outcomes, reinforcing the need for multidisciplinary, patient-centered care. While demographic variables were largely unrelated to QoL, factors such as time since diagnosis, type of surgery, and treatment modality proved critical. These findings emphasize the need for collaborative care models that incorporate oncologists, mental health professionals, dietitians, and physical therapists. For instance, dietary interventions are needed to address the high prevalence of overweight participants (51.5%), which is linked to inflammation and decreased physical function.[13] Mental health interventions such as cognitive-behavioral therapy and mindfulness are necessary to address the 32% of women who reported severe anxiety, consistent with the recommendations of Andersen.[21] Rehabilitative and supportive services should also be integrated to address fatigue, sleep disturbances, and long-term treatment effects.

CONCLUSION

During the active and immediate post-treatment phase, quality of life in breast cancer patients is shaped primarily by clinical and treatment-related variables rather than demographic or static personal health factors. This supports a shift in intervention strategies toward comprehensive, personalized, and holistic care frameworks that respond to the evolving and multifactorial nature of patient needs across the cancer care continuum.

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Duaa Saeed Obaid, Wafaa Ahmed Ameen
Drafting or Revising Critically:	Duaa Saeed Obaid, Wafaa Ahmed Ameen
Final Approval of version:	All the above authors
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