

Quality of Life of Women, Pre- and Post-Operative Breast Cancer Surgery

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Author's Contribution

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ABSTRACT

Objective: To evaluate the Quality of Life (QoL) of women with breast cancer who came for treatment in surgery department before diagnosis and post-operative time period.

Methodology: A prospective cohort study was conducted at General surgery Department, Islamabad Medical complex, NESCOM, from October 2021 to March 2022. Seventy four diagnosed breast cancer patients, above 18 years of age, who underwent surgical treatment (MRM and Axillary clearance), were selected. QoL was assessed with the help of EORTC QLQ C-30 and EORTC BR-23 questionnaire. Data was collected on opd follow up and through telephone. SPSS 20 was used to analyze the data and Wilcoxon test and Kruskal-Wallis test were performed.

Results: The QoL assessed at pre and post operative stage showed positive results only in the future prospects and emotional function domain. Whereas, negative results were scored in rest of the domains, which are symptoms in the arm, body image, financial concerns, sexual pleasure, cognitive function and physical function.

Conclusion: The need for a multidisciplinary approach for breast cancer patients is required regarding different dimensions that can improve their QoL.

Key Words: Breast cancer, breast carcinoma, Quality of Life (QoL), women, surgery.

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Introduction

Breast cancer is the second most common type of cancer (1.7 million new cases per year) ^{1,2} amongst the women worldwide; and in Pakistan 25,928 (14.5%) of breast cancer cases have been diagnosed in 2020. A 30% increase ~~like~~ has been observed over the last 25 years in the incidence rates of breast cancer, both in developing and developed countries.^{1,2,3} It comprises of more than 18% of all female malignancies.¹ Surgical treatment for breast cancer increases the level of stress among women.⁴ This is because it has certain adverse reactions and peculiarities, like mutilation, severity and self-image alterations.⁵ Thus, social, psychological and physical aspects of women's life are compromised and can negatively impact the Quality of Life (QoL).^{1,7,8,9} Thereby, the understanding of these factors can

ameliorate the process and effectiveness of cancer treatment.⁸

Accordingly, if the QoL is assessed, it possibly verifies the impact of surgical treatment. It also provides action plan for the nurses regarding rehabilitation and adherence of patients during treatment.⁹ In order to provide comprehensive and targeted care to the breast cancer patients, information about their demographic profile is necessary.¹⁰ The focus of this research study is to evaluate the Quality of Life (QoL) of women with breast cancer who came for treatment in surgery department before diagnosis and post-operative time period, associated with the findings related to their socio-economic status.

Methodology

In this prospective Cohort study, seventy four breast cancer patients were selected from General surgery Department, Islamabad Medical complex, NESCOM. Sample size was calculated by using WHO calculator. Confidence level is 95%, absolute precision is 10% and the population proportion is 0.741.¹¹ Only patients diagnosed with breast carcinoma, above 18 years of age and who underwent surgical treatment (MRM and Axillary clearance) were included in the study. Patients with dementia, language disorder, Metastatic Breast cancer, and with severe complications in vital organs at the time of enrollment; were excluded from this study.

Two different types of data was collected that emphasized on the pre-operative recall status and post-operative current status of individual patients. The data was collected through telephone calls and from the Opd follow-up of patients. Both the instruments; EORTC QLQ C-30 and EORTC BR-23 were utilized to measure QoL

All analyses were conducted using SPSS version 20.0. The tests performed included Wilcoxon test and Kruskal-Wallis test. The Wilcoxon test is used for comparing statistically significant data at different moments of the research.¹² Data collected after assessment of parameters in pre and post operative moment is presented as Boxplot.

In case, if there are more than two independent samples, then Kruskal-Wallis test is used.¹³ This test is used to correlate our parameter with socio-economic status in each moments (Moment 1: Pre-operative time period and moment 2: post operative time period).

The patients were classified in to different socio-economic categories according to social status, i.e. category A: Higher class; B: Middle class; C: working class and D: lower class.

Results

The mean age of breast cancer patients was 44.2 years, most of them were married (67.5%) and have had elementary or high school education (17.5%). Table I, depicted the socio-demographic data of all the respondents of this study.

The results of Wilcoxon test showed that Future perspective dimension and cognitive functioning in the moment 2 (postoperative period) was improved; while, the dimensions of Sexual Function, Social Function, Functional Limitations, Physical Function, Body Image and Symptoms in the Arm worsen in moment 2 (post operative period).

Table I: Socio-demographic Profile of women diagnosed with breast cancer

Socio-demographic Profile of women diagnosed with breast cancer		
Variable	Frequency	%
Marital Status		
Single	8	10.8
Married	50	67.5
Separate	6	8.1
Widow	10	13.5
Education Level		
Illiteracy or up to 3rd grade	46	62.1
Complete Elementary School	13	17.5
Complete High School	10	13.5
Complete Higher Education	5	6.7

Table II: Medians of the Pre and Postoperative Moments as per Kruskal-Wallis test.

Scores	Medians at Moment 1			p-value	Medians at Moment 2			p-value
	Socioeconomic Classification				Socioeconomic Classification			
	B	C	D		B	C	D	
Physical Functioning	77.6	100.0	100.0	<0.01	57.7	61.0	75.0	0.1
Functional Limitations	100.0	100.0	100.0	0.4	29.2	50.0	50.0	0.2
Cognitive Functioning	100.0	81.2	81.2	0.5	100.0	100.0	100.0	0.5
Social Functioning	81.2	81.2	100.0	<0.01	29.2	50.0	66.6	<0.01
Emotional Functioning	31.2	57.7	71.0	<0.01	61.0	71.2	73.5	0.4
Financial Difficulty	0.00	0.00	0.00	0.3	33.3	33.3	33.3	0.3
Symptoms in the Arm	0.00	0.00	0.00	0.8	22.2	16.6	22.2	0.8
Global Health Status	79.6	72.4	79.6	0.2	57.7	57.7	80.8	0.3
Sexual Functioning	16.6	16.6	16.6	0.9	0.00	7.3	0.00	0.1
Sexual Pleasure	57.7	57.7	33.3	0.2	0.00	57.7	33.3	0.1
Body Image	91.6	100.0	100.0	0.3	50.3	81.3	74.0	<0.01
Future Perspectives	0.00	33.3	0.00	0.1	0.00	0.00	0.00	0.9

The results of Kruskal-Wallis test showed that when the parameters being were co-related to socio-economic status, better QoL was presented by the patients belonging to class C and D in the Physical Function dimension, at Moment 1 (preoperative moment). Also, QoL was improved in the Emotional Function dimension by the patients, belonging to class B, at moment 1.

On the contrary, at moment 2, higher QoL was presented by the patients in the Body Image dimension; while, better QoL was seen in women of class B in the Social Functioning dimension. (See Table II)

Discussion

An important aspect of measuring treatment success is assessing the QoL of women with breast cancer. The determination of the factors that predict changes in quality of life provides important information for clinical practice and can be used for the development of evidence-based guidelines for designing follow-up protocols for breast cancer survivors.

Study suggested that Socio economic status is strongly linked with QoL of women diagnosed with BR, as well as associated with stage of progression of disease. Worst QoL is reported by the people belonging to socio-economic deprived areas.¹⁴ Another study declared that higher incidence is associated with higher socioeconomic status; though, lower case fatality.¹⁵

The major risk factor for breast cancer is the age of patient. Majority of the incidence cases are reported after 50 years of age.¹⁶ This study found out that 78% of the respondents were >40 years of age and while the rest of the patients were below 40 years of age.

Married women were also the majority in another study in breast cancer.¹⁷ This suggested that the presence of a partner is important, but their absence was not a risk factor.

It has been evidenced that higher education attributes a better QoL in breast cancer women.¹⁸ Breast cancer patients did not showed better scores on QoL scale with less than 8 years of education. Similar to this, a recent study conducted by Konieczny, et al., (2020) described that breast survivors with higher education showed higher QoL after breast cancer treatment. Thereby, education, marital status, and age are the demographic and social factors which influence the QoL of patients with breast cancer¹⁶.

After surgery, Functional Limitations as well as Physical Functioning domain worsen in this study. However, a research study figured out that Nepalese breast cancer women; with higher education level, scored better results in the Physical Functioning dimension.¹⁹ After breast cancer diagnosis, better physical functioning is associated with increased physical activity. This also lessens bodily pain and fatigue in breast cancer women. Thus, the need for physical activity among breast cancer survivors should be accentuated.^{20,21}

QoL losses were higher, in the Sexual Pleasure and Sexual Function domain. Also some studies have described that the removal of tumor can have negative consequences significantly on the perception of sexuality and the body image.^{22&23}

In breast cancer patients, the cognitive function is also negatively affected.^{24,25} However, in the present study improvement was seen in cognitive functioning of women. This could be due to the fact that these women were still under treatment.

Another factor responsible for worsening of QoL is Financial Difficulty dimension. As a study declared that, 90% of Nepalese women had shown worse QoL because of financial difficulty dimension.¹⁹ However, in this study most of the patients did not experience any financial issues, as the surgical treatment in the respective hospital was free of cost.

The QoL of the patients in terms of Body Image dimension also worsen in this study. This is because of the process of (re) elaboration and reformulation after breast cancer. This has also become more difficult after prosthesis placement.²⁶ Lower score in this dimension leads to the development of depression associated symptoms.²⁷

QoL is decreased in patients of this study due to the presence of symptoms in the Arm such as limitations in movement. Another study also came up with the similar results that poor QoL is associated with symptoms in arm.²⁸

Despite of so many limitations, positive scores were recorded in the Future Perspective domain. Similarly, in other studies better results were obtained by the patients in the domain of future prospects.^{27&28} It is the need of the hour to ascertain a multidisciplinary approach for breast cancer survivors. In such a way that different health professionals can provide collaboration regarding different dimensions; improving overall QoL

Conclusion

QoL levels in women with breast cancer decreases with increased age, low socio-economic status and low level of education. The QoL assessed at pre and post operative stage showed positive results only in the future prospects and emotional function domain. Whereas, negative results were scored in rest of the domains, which are symptoms in the arm, body image, financial concerns, sexual pleasure, cognitive function and physical function.

Thus, there is a dire need to emphasize on the provision of support, care and relevant information regarding dimensions such as body image, sexual enjoyment and emotional function. Nevertheless, it is also vital to support the already established initiatives that guide and foster the development of future interventions.

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