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Quality of life among breast cancer survivors in India

Vishal Chaudhary^{1,*}, Vinit Kumar Tiwari² & Chandra Shekhar Amb³

¹Department of Surgical Oncology, Metro Hospital, Noida, Uttar Pradesh, India; ²Department of Surgical Oncology, NSCB Medical College, Jabalpur, Madhya Pradesh, India; ³Department of Surgery, Chirayu Medical College, Bhopal, Madhya Pradesh, India;

*Corresponding author

Affiliation URL:

<https://metrohospitals.com/>

<https://www.nscbmc.ac.in/>

<https://www.cmchbhopal.com/>

Author contact:

Vishal Chaudhary - Email: vishalchaudharyopd@gmail.com

Vinit Kumar Tiwari - E-mail: vinittiwari69@gmail.com

Chandra Shekhar - E-mail: amb.shekhar05@gmail.com

Abstract:

Significant progress in the early detection and treatment of breast cancer has greatly improved survival rates, enabling numerous patients to enjoy longer and healthier lives. Nevertheless, even with these medical advancements, survivors frequently face physical issues like fatigue, pain and cognitive difficulties that can affect their everyday activities. Moreover, they often deal with psychosocial problems such as anxiety, depression, concerns about body image and feelings of social isolation, which may continue well after treatment ends. Thus, data shows the importance of evaluating Quality of Life (QoL) to fully grasp the experiences of survivors beyond traditional clinical assessments in India.

Keywords: Breast cancer, quality of life (QoL), survival rate

Background:

Breast cancer is the most common cancer occurring in women worldwide and nearly 2 million new cases were detected in 2018 [1]. Breast cancer has ranked number one cancer among Indian females with age adjusted rate as high as 25.8 per 100,000 women and mortality 12.7 per 100,000 women [2]. The incidence rate of carcinoma of the breast was found to be as high as 41 per 100,000 women for Delhi being the highest in the country, signifying the burden of disease in this area [3]. Delhi being the capital of the country and a major metropolitan center is well equipped with advanced cancer care facilities and a large proportion of patients get the best possible treatment comparable to global standards [4]. Various treatment options for breast cancer involves breast conserving surgeries, mastectomies, chemotherapy, immunotherapy, targeted therapy, hormonal therapy [5]. These therapies improved survival rate in breast cancer patients but are not free of side effects, effecting quality of life of breast cancer survivors [6]. Chemotherapy causes short term and long term side effects *e.g.* emesis, nausea, stomatitis, alopecia, myelosuppression, thromboembolism, myalgia [7]. Radiation therapy can result in hair loss, skin peeling or colour changes, sore throat, difficulty in swallowing, nerve damage, fatigue *etc.* [3]. Surgical treatment is central to the treatment of breast cancer, often causes depression about body image [8]. All these treatment modalities increased breast cancer survivorship but can result in plethora of clinical problems as side effects affecting the quality of life adversely [9]. Therefore, it is of interest to assess the quality of life in breast cancer survivors.

Methodology:

The study was conducted over a period of 12 months at Max Super Speciality Hospital, Vaishali. Breast cancer patients who have completed their treatment at least 6 months previous to the date of study enrollment were considered for inclusion in the study. After counseling, informed written consent was taken and the study data was collected using detailed questionnaires (EORTC QLQ c-30 scale). Patients eligible for the study were those with biopsy-proven invasive breast cancer, who have completed treatment (other than hormonal therapy) at least six months prior to enrolment. Only individuals aged above 20 years and below 75 years were considered. Patients were excluded from the study if they presented with metastatic or

recurrent disease and those who were suffering from major co-existing or chronic illnesses such as chronic renal failure, congestive heart failure, major respiratory illness, or cirrhosis.

Data analysis:

The data were coded and analyzed on SPSS 21. Relevant descriptive statistics for both the questionnaire items were calculated. Patients were divided into two groups according to their scores; the patients who scored ≤ 33.3 for the functional scales and the global QoL were considered problematic, while the patients who scored ≥ 66.6 were considered in good condition. For symptom scales, the score is reversed, *i.e.*, the patients who scored ≥ 33.3 were considered in good condition and the patients who scored ≥ 66.6 were considered problematic. The scores obtained in each domain were the dependent variable in the study while the age, cancer staging, types of surgery, radiotherapy, chemotherapy, educational status, mode of payment were the independent variables. The ANOVA and independent t-test were used for the analysis and calculating the p-values.

Table 1: Socio-demographic characteristics of the patients enrolled in the study

Variable	N (%)
AGE	
<50 yrs	25(33.3%)
>50 yrs	50(66.7%)
BMI	
Normal	27(36%)
Overweight	43(57.3%)
Obese	05(6.7%)
Education	
Primary	10(13.3%)
Secondary	15(20%)
Graduate	30(40%)
Post graduate/Professional	20(26.7%)
Mode of payment	
Own	22(29.3%)
PSU	18(24%)
Mediclaime/Insurance	35(46.7%)

Table 2: Assessment of quality of life in breast cancer survivors by using EORTC QLQ-C30 questionnaire

Scales	N	No. of items	Mean + SD
QLQ-C30 questionnaire			
Global health status/QoL	75	2	68.84(11.03)
Functional scales			
Physical	75	5	74.1(25.08)
Role	75	2	65.8(30.93)
Emotional	75	4	78.87(28.06)

Cognitive	75	2	82.8(24.20)
Social	75	2	82.90(24.50)
Symptom Scale			
Fatigue	75	3	32.71(32.23)
Nausea and vomiting	75	2	7.55(21.19)
Pain	75	2	30.20(32.62)
Dyspnoea	75	1	9.32(17.79)
Insomnia	75	1	10.65(20.60)
Appetite loss	75	1	7.90(18.02)
Constipation	75	1	11.98(21.65)
Diarrhoea	75	1	3.5(10.34)
Financial difficulties	75	1	16.87(29.68)

Results and Discussion:

The study population consists of 75 individuals, with demographic, health, education and financial characteristics recorded. A majority of participants are above 50 years (66.7%), while 33.3% are younger than 50. This indicates that the sample is skewed toward an older age group, which may influence health and socio-economic patterns observed as shown in **Table 1**. Breast cancer survivors experience lower QoL mainly in physical and emotional domain [11]. Overweight individuals form the largest group (57.3%), followed by those with normal BMI (36%). 6.7% individuals were obese. The predominance of overweight participants could have implications for chronic disease risk. The educational profile shows a relatively well-educated population that is 40% was graduates. 26.7% were postgraduates or professional qualifications. Overall, more than two-thirds of the sample has at least graduate-level education, which may correlate with awareness, employment opportunities and healthcare access. Medclaim/Insurance is the most common payment mode (46.7%), highlighting reliance on formal financial protection mechanisms. 24% were covered by PSU (Public Sector Undertaking) schemes, reflecting institutional support. The dominance of insurance coverage suggests relatively good penetration of financial risk protection, though nearly one-third still bears direct expenses. Quality of life was assessed using EORTC QLQ-C30 which is a standardized 30-item questionnaire. Most of the patients scored >66.6 (on a scale of 0–100) for global health status and functional scales and this finding was more evident for social functioning, emotional functioning and cognitive functioning. Pain and fatigue were the most disturbing symptoms with nearly 28% of patients exhibiting them. Among symptoms, pain and tiredness were the most distinct and problematic, as 37.3% and 34.6% of patients scored >66.6. Diarrhoea followed by shortness of breath and nausea were the least disturbing symptoms as show in (**Table 2**). Quality of life was compared according to Global health and Functional scale parameters in QLQ-C30. Global health (p = 0.05) and role functioning (p = 0.006) were better in the age group <50 years. Although the score was higher in that age group in other parameters as well, those were not statistically significant. Similarly no statistically significant difference was found when comparison was done according to chemotherapy schedule (adjuvant, neoadjuvant and no chemotherapy), radiotherapy (given or not), hormonal therapy (given or not) and mode of payment (Own pocket, Medclaim, PSUs) for different Functional QLQ C30 scales. Our study shows that, overall, scores of global health status and functional scales are high,

while scores of symptom scales are moderate to low. These scores indicate better QoL in our patients. Pain and tiredness are the most distressing symptoms in our study. As per study done by Heidary *et al.* pain and gastrointestinal discomfort were the symptoms affecting Quality of life [12]. Weakness and need to rest are other symptoms that affect QoL to a moderate level, while diarrhea and shortness of breath are the least disturbing symptoms. Comparing the variables for QRQ C30 showed that age ≤50 yrs showed statistically significant better score for Global health score (p value- 0.005) and Role functioning (p value-0.006). Other variable having statistically significant impact in QRQ C30 scale was educational status with higher education level showing better scores in Physical functioning (p value-0.030) and social functioning (p value-0.004). A study from Bahrain by Jassim and Whitford with sample size (n = 239), had shown that global health score was good (mean=63.9) and fatigue (mean=35.2) sleep disturbance and pain were the most up-setting symptoms [10]. Also scores for social functioning (mean=77.5) and emotional functioning (mean=63.4) were highest and lowest respectively (37). In our study global health score was 68.84(mean) and most distressing upsetting symptom was pain (mean=30.20). In our study highest score is for social functioning (mean=82.9) and lowest for role functioning (mean=65.8).

Conclusion:

The overall quality of life (QOL) scores for patients treated at an Indian facility were comparable to global benchmarks. Patients under the age of 50 exhibited superior global healths, role functioning, body image and sexual function. When comparing conservative breast surgery to mastectomy, the former yielded improved emotional and social functioning.

Limitations:

This study was conducted to evaluate overall QoL in breast cancer survivors, so, a few specific issues were not evaluated in detail. Being a questionnaire study, a detailed discussion could not be possible with patients regarding specific matters.

Conflict of Interest: Nil

Sponsorship: Nil

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