◼◼◻◻ ORIGINAL ARTICLE

Quality of life and self-esteem after mastectomy in patients who did or did not undergo breast reconstruction

Qualidade de vida e autoestima de pacientes mastectomizadas submetidas ou não a reconstrução de mama

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ABSTRACT

Background: The number of breast cancer cases has sharply increased in the Brazilian population. Therefore, quality of life (QOL) and self-esteem (SE) are major causes of concern since removal of the breast can have substantial psychological and physical impacts. With the advancement of surgical techniques, however, breast reconstruction has become a standard procedure, even in the Brazilian Public Health System. **Methods**: In this exploratory qualitative study, 22 recruited volunteers were divided into 2 groups: Group 1 (n = 11) consisted of women who underwent mastectomy, whereas Group 2 (n = 11) comprised women who underwent mastectomy plus breast reconstruction. All subjects completed the Rosenberg Universidade Federal de Sao Paulo/Escola Paulista de Medicina, European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-C30, and Visual Analogue Scale questionnaires. **Results:** Group 1 subjects had a lower average emotional function than Group 2 subjects. No statistically significant difference between the two groups was observed in the SE; however, statistically significant differences were noted according to age. No differences in pain level were seen between groups. **Conclusions**: Women who did not undergo breast reconstruction were more emotionally fragile; however, further studies are required in an effort to obtain more statistically relevant values.

Keywords: Breast neoplasms. Mastectomy. Breast/surgery. Quality of life.

RESUMO

Introdução: O número de casos de câncer de mama vem crescendo abruptamente na população brasileira. Portanto a qualidade de vida (QV) e a autoestima são pautas importantes quando o assunto é abordado, visto que a retirada da mama pode causar grande impacto tanto psicológico como físico. Entretanto, com o avanço de técnicas cirúrgicas, a reconstrução de mama já é prática constante até mesmo no Sistema Único de Saúde (SUS). **Método:** Trata-se de um estudo qualitativo de caráter exploratório, que recrutou 22 voluntárias, divididas em dois grupos, de acordo com a cirurgia realizada. O grupo 1 (n = 11) foi formado por

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mulheres mastectomizadas e o grupo 2 (n = 11), por mulheres pós-reconstrução da mama. As voluntárias dos dois grupos responderam aos questionários de Rosenberg UNIFESP/EPM, EORTC QLQ-C30 e EVA. **Resultados:** Os resultados sugerem que, em relação à qualidade de vida, quando se observa a função emocional, as voluntárias do grupo 1 apresentam pior média em relação ao grupo 2. Em relação à autoestima, não foi observada diferença estatisticamente significante entre os dois grupos; porém, quando considerada a idade, os resultados apresentam diferenças estatisticamente significantes. Quanto ao nível de dor, os grupos não apresentaram diferença estatisticamente significante. **Conclusões**: Os resultados obtidos revelam que mulheres que ainda não passaram pela reconstrução mamária possuem maior fragilidade emocional, porém novos estudos devem ser realizados para obtenção de valores estatisticamente mais relevantes.

Descritores: Neoplasias da mama. Mastectomia. Mama/cirurgia. Qualidade de vida.

INTRODUCTION

Malignant neoplasms are considered a worldwide public health problem due to their high morbidity and mortality rates. The number of registered cases associated with breast cancer in particular grows sharply each year[1,2]. Consequentially, health and well-being have been of major concern in the 21st century, in which men and women of advancing age seek preventive measures to ensure a healthier and longer-lasting life[3].

Breast cancer has been gaining significant media attention, which highlights the importance of its early diagnosis through breast examination. This examination serves as a tracking strategy in which women can detect possible alterations in their own breasts, a habit that should be adopted throughout life from menarche, and aims to carefully detect abnormalities. However, among the estimated 518,510 new cases of cancer in Brazil reported between 2012 and 2013, the most common was non-melanoma skin cancer (42,305 cases), followed by female breast carcinoma (28,340 cases)[4].

Breast carcinoma is caused by the rapid and uncontrolled multiplication of mammary cells – which may be genetically modified by an error in cell proliferation – that may reach various regions of the breast or even migrate to other body tissues, such as the bone, lungs, pleura, liver, and central nervous system[5]. The evolution of this disease is silent in most cases – i.e., no symptoms signal its appearance, contributing to increased mortality rates due to a lack of early diagnosis. It is recommended that if abnormalities are suspected, especially in patients of advanced age or with a family history of the disease, the patient should seek health care as soon as possible for diagnosis by clinical examination, mammography screening, ultrasonography, needle aspiration (cytological or histological material), or biopsy[6]. After a breast cancer diagnosis is made, a patient will undergo a combination of treatments that may include surgery, radiotherapy, chemotherapy, and hormone therapy as well as possible non-conventional treatments that aim to support her physical and mental well-being[5,7].

The triggering factors of breast cancer remain unclear. It is not possible to dissociate this disease from the quality of life (QOL) and self-esteem (SE). Non-acceptance of the disease frequently leads to very serious or irreparable psychological damage, particularly among women who undergo surgical intervention, leaving them partially or completely without a breast – an organ that is culturally part of their sensuality and sexuality[8].

The World Health Organization defines QOL as "an individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards, and concerns"[7]. Topics such as QOL have increasingly become the focus of studies in Brazil due to the increasing proportion of elderly individuals. Consequently, QOL becomes the primary goal among people under treatment for a particular disease, including cancer[9]. Concomitantly, SE is a delicate issue for women who undergo surgical procedures for breast cancer since intense psychological treatment for restoring and accepting their new body image is necessary in many cases. However, with advances in medicine, an improved QOL and SE of women who experienced surgery to remove a tumor – including the mammary gland – can be achieved through breast reconstruction, which is widely performed, even in the Brazilian Public Health System[10].

Considering the high incidence as well as the impact of the diagnosis and treatment of breast cancer, this study aimed to analyze the impact of mastectomy and posterior breast reconstruction on patient QOL and SE.

METHODS

The present study was approved by the research ethics committees of the Federal University of São Paulo (UNIFESP) and Pérola Byington Hospital. This was a qualitative exploratory study on QOL, SE, and pain that included 22 volunteers who were selected after they completed the mini mental exam for a brief assessment of their cognitive function. Each patient was at least 30 years of age. Group 1 (n = 11) included women who underwent mastectomy, whereas Group 2 (n = 11) included women who underwent both mastectomy and breast reconstruction. All subjects completed the Universidade Federal de Sao Paulo/Escola Paulista de Medicina (UNIFESP/EPM), European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-C30 (EORTC QLQ-C30), and Visual Analogue Scale (VAS) questionnaires.

Eligibility for participation in this study was as follows:

- Inclusion: female, surgically treated with mastectomy or mastectomy plus breast reconstruction, age ≥ 30 years;
- Exclusion: men and women who underwent breast-conserving surgery such as sectorectomy and quadrantectomy.

Descriptive and comparative data analyses were performed. The independent Student's *t*-test was used to compare the means between groups. SPSS 17.0 for Windows was used to evaluate the data.

RESULTS

Group 1 participants had a mean age of 52 ± 13.98 years, whereas Group 2 participants had a mean age of 48.27 ± 10.48 years (n = 11 each). Most Group 1 patients had completed primary school (45.5%), whereas most Group 2 patients had completed high school (45.5%). Group 1 included only 1 illiterate volunteer (9.1%), whereas Group 2 included only 1 patient who completed higher education (9.1%).

Both groups consisted mostly of married women (72.7% in Group 1; 45.5% in Group 2). The two groups had the same distribution of unmarried (18.2%) and widowed (9.1%) women. A total of 27.2% of Group 2 participants were divorced, whereas none of the women in Group 1 were divorced.

In Group 1, Halsted's radical mastectomy was the more frequently performed surgery (45.5%), followed by Patey's modified radical mastectomy (36.1%) and Madden's modified radical mastectomy (18.2%). In Group 2, 18.2% of patients required a tissue expander (representing the beginning of reconstruction), whereas 27.3% had already undergone symmetrization of the areolar–papillary complex (constituting the final stage of reconstruction).

Capsular contracture with retraction of the prosthesis was observed in 1 patient in Group 2. Among the surgeries performed in the latter group, the transverse rectus abdominis musculocutaneous flap reconstruction was the most prevalent reconstruction technique (36.4%), followed by the latissimus dorsi muscle flap reconstruction (9.1%). The left breast was the most commonly affected in both groups, accounting for 63.6% of cases in Group 1 and 54.5% of cases in Group 2.

The SE data obtained from the Rosenberg UNIFESP/EPM questionnaire showed that Group 1 participants had a mean score of 6.81 ± 6.19 and that Group 2 participants had a mean score of 7.81 ± 2.40 (Table 1). When assessing the correlation between age and the Rosenberg UNIFESP/EPM questionnaire score, a statistically significant difference in SE was observed, with a lower prevalence of SE in women aged < 50 years in Group 1 (mean score, 10.42 ± 4.64). The highest SE rate of the two groups was seen in Group 1 in women aged > 51 years (mean, 0.50 ± 1). In Group 2, the highest SE rate was seen in women aged < 50 years (mean score, 6.85 ± 2.26), whereas women of the same group aged > 51 years had a mean score of 9.50 ± 1.73.

A subjective evaluation of pain (VAS) did not differ significantly between groups (Table 2). However, comparison of VAS questionnaire findings by age showed that the highest rate of pain was found in women aged < 50 years in Group 1 (mean, 3.17 ± 2.59) and in women aged > 51 years in Group 2 (mean, 3.90 ± 3.45).

Analysis of the EORTC QLQ-C30 questionnaire for comparing QOL between groups (Table 3) showed that, although there was no statistically significant difference except for emotional function, Group 1 had lower overall physical function, role performance, emotional function, cognitive function, and social function scores. The lowest scores were seen in the emotional function parameter (56.81 ± 33.29 in Group 1 vs. 76.78 ± 10.77 in Group 2). On the other hand, the highest score was seen in the physical function parameter (80.60 ± 16.72 in Group 1 vs. 85.45 ± 10.67 in Group 2). The lowest score in Group 2 was seen in the role

Table 1 – Analysis of the Rosenberg UNIFESP/EPM questionnaire findings by study group.

Groups	N	Mean	Standard deviation	P value
Group 1 (mastectomy only)	11	6.81	6.19	0.623
Group 2 (mastectomy plus reconstruction)	11	7.81	2.40	

UNIFESP/EPM = Universidade Federal de Sao Paulo/Escola Paulista de Medicina.
P ≤ 0.05 considered statistically significant.

performance parameter (71.21 ± 31.70), whereas the highest score in Group 2 was seen in the social function parameter (86.36 ± 16.36). Comparison of the two groups also showed no statistically significant difference regarding the analysis of the symptomatic scales, including fatigue, nausea, vomiting, pain, dyspnea, insomnia, appetite loss, constipation, and diarrhea (Table 4). Table 5 shows the performance in terms of financial difficulty (Group 1: mean score, 39.39 ± 38.92; Group 2: mean score, 30.30 ± 31.46) as well as general health parameters and QOL (Group 1: mean score, 77.27 ± 18.66; Group 2: mean score, 78.78 ± 27.47).

DISCUSSION

According to data from the Brazilian National Cancer Institute (Instituto Nacional de Câncer)[4], aging still represents the main risk factor for breast cancer. The incidence rates increase rapidly in women up to 50 years of age, after which point they decrease. Among the malignant neoplasms, breast cancer has received much focus due the highest mortality rates worldwide; thus, it is becoming a major in public health concern[11]. Mastectomy remains the most widely used breast cancer treatment. Removal of the breast and other treatments are needed to ensure complete elimination of cancer cells; however, they result in physical and psychological complications, which may negatively influence patient QOL and SE[12-15].

The findings of the current study showed no differences in QOL between women who underwent mastectomy

Table 2 – Analysis of the Visual Analogue Scale questionnaire findings by study group.

Groups	N	Mean	Standard deviation	P value
Group 1 (mastectomy only)	11	2.55	2.53	0.993
Group 2 (mastectomy plus reconstruction)	11	2.66	2.61	

P ≤ 0.05 considered statistically significant.

Table 3 – Analysis of the EORTC QLQ-C30 questionnaire functional scale findings by study group.

	Groups	Mean	Standard deviation	P value
Physical function	Group 1	80.60	16.72	0.427
	Group 2	85.45	10.67	
Role performance	Group 1	69.69	26.68	0.905
	Group 2	71.21	31.70	
Emotional function	Group 1	56.81	33.29	0.050*
	Group 2	76.78	10.77	
Cognitive function	Group 1	69.69	22.13	0.685
	Group 2	74.24	29.21	
Social function	Group 1	77.27	30.97	0.400
	Group 2	86.36	16.36	

EORTC QLQ = European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire.
Group 1 = mastectomy only; Group 2 = mastectomy plus reconstruction.
P ≤ 0.05 considered statistically significant.

Table 4 – Analysis of the EORTC QLQ-C30 questionnaire symptomatic scale findings by study group.

	Groups	Mean	Standard deviation	P value
Fatigue	Group 1	19.19	22.27	1.000
	Group 2	19.19	14.13	
Nausea and vomiting	Group 1	9.09	25.12	0.339
	Group 2	1.51	5.02	
Pain	Group 1	10.60	13.48	0.880
	Group 2	12.12	29.89	
Dyspnea	Group 1	—	—	0.329
	Group 2	3.03	3.03	
Insomnia	Group 1	51.51	31.13	0.244
	Group 2	33.33	39.44	
Appetite loss	Group 1	9.09	30.15	0.534
	Group 2	3.03	10.05	
Constipation	Group 1	6.06	13.48	0.697
	Group 2	9.09	21.55	

EORTC QLQ = European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire.
Group 1 = mastectomy only; Group 2 = mastectomy plus reconstruction.
P ≤ 0.05 considered statistically significant.

Table 5 – Analysis of the EORTC QLQ-C30 questionnaire financial and quality of life findings by study group.

	Groups	Mean	Standard deviation	P value
Financial difficulties	Group 1	39.39	38.92	0.554
	Group 2	30.30	31.46	
General state of health/Quality of life	Group 1	77.27	18.66	0.881
	Group 2	78.78	27.47	

EORTC QLQ = European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire.
Group 1 = mastectomy only; Group 2 = mastectomy plus reconstruction.
P ≤ 0.05 considered statistically significant.

only and those who underwent mastectomy plus breast reconstruction except in terms of emotional function, which was significantly lower in the latter group. These results are consistent with those of an earlier study[16] that evaluated the QOL of women who underwent breast-conserving therapy compared to those who underwent modified radical mastectomy with immediate reconstruction. However, it is important to emphasize that the SF-36 Health Survey questionnaire was used in that study[16] and that no QOL-related differences were seen between the two surgical techniques.

We also observed that younger patients had to stop working due to their cancer treatment, which created higher financial difficulties. This aspect was reported in an earlier study[17] of 990 patients that demonstrated that the younger the patient, the greater her concern with her health, financial situation, and future, which contributed negatively to QOL. Another study assessed the QOL of women with breast cancer for a period of 6 years after diagnosis through interviews of 577 women aged 30–62 years of age[18]. In this study, younger women showed better results in terms of physical aspects, which could be associated with the comorbidities of older women[18]. In contrast, in terms of the vitality, and social and emotional aspects, the younger the woman, the lower the values obtained, indicating that the younger the woman, the greater the emotional impact on her QOL; these results are consistent with those of the present research.

Many authors use the Rosenberg questionnaire to evaluate SE. An SE analysis of 54 patients aged 28–68 years with surgically treated breast cancer showed that the mean SE of patients aged 43–55 years was higher than that of younger women[19]. These results are also consistent with this study, with a statistically significant difference seen in the group of patients who underwent mastectomy only.

Regarding pain interference, no parameters affecting patient QOL were identified in the present study. However, Pancioni et al.[1] conducted a study of 19 women who underwent mastectomy at least 2 years previously (26.5%) who, regardless of the time after surgery, still had myofascial pain.

It is noteworthy that this study showed positive and relevant aspects, especially when scores were analyzed individually or in association with age. However, the data of only a small number of patients were analyzed. Thus, further studies are required involving larger patient groups to more definitely elucidate the impact of breast cancer treatment on QOL and SE. The use of physiotherapy in the oncology field is in its early stages, and scientific studies in this area are scarce. Thus, this study also aimed to encourage scientific production of oncological physiotherapy practices as well as the training of skilled professionals to provide more integrative care for cancer patients.

CONCLUSIONS

Emotional function, considered a critical element of QOL and SE, was worse in patients who underwent mastectomy only compared to those who underwent mastectomy plus reconstruction, indicating that women who have not yet undergone breast reconstruction are more emotionally fragile.

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