

# Quality of life of women with pre-and post-operative breast cancer

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## Quality of Life of Women with Pre-and Post-Operative Breast Cancer

**Objective.** The objective of this study was to evaluate the Quality of Life (QOL) at the pre and postoperative time of women with breast cancer submitted to surgery and to associate it with the socioeconomic class.

**Methods.** This is a longitudinal study, performed at Santa Rita de Cássia Hospital (HSRC), Vitória - ES, Brazil. The EORTC QLQ instrument C-30 and the

EORTC BR-23 were used to measure the QOL of the interviewees before and after breast surgery. **Results.** A population composed of 87 women, 42.5% were 60 years old or more. The socioeconomic condition C was identified as predominant among the interviewees, covering 62% of the sample. Women's QOL in the preoperative period was better in the Physical Function dimensions for class C and D; and the Emotional was better for class B. There was improvement in QOL after surgery for Body Image in class C, and for Social

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Function in B. Evaluating all social classes, only the dimensions Cognitive Function and Future Perspectives improved in the postoperative period. **Conclusion.** The quality of life of women after breast surgery worsened in most of the studied dimensions, evidencing the need for an interdisciplinary work dedicated to the recovery and rehabilitation of these patients.

**Descriptors:** quality of life; breast neoplasms; women's health; nursing.

### Calidad de vida de mujeres con cáncer de mama en pre y postoperatorio

**Objetivo.** Evaluar la calidad de vida en los momentos antes y después de la cirugía en mujeres con cáncer de mama sometidas a tratamiento quirúrgico y su asociación con la clase socioeconómica. **Métodos.** Estudio longitudinal, realizado en el Hospital Santa Rita de Casia (HSRC), Vitória - ES, Brasil. Se utilizó el instrumento EORTC QLQ C-30 y la EORTC BR-23 para medir la calidad de vida de las participantes antes y después de la cirugía de mama. El criterio de clasificación económica establece la división: A1, A2, B1, B2, C1, C2, D y E, siendo, A1 la mayor renta. **Resultados.** El estudio incluyó 87 mujeres, el 42.5% mayores de 60 años. Se identificó como predominante en las participantes la condición socioeconómica C (62%). La calidad de vida de las mujeres en el preoperatorio fue mejor en la dimensión de Funcionamiento Físico en las clases C y D, y en la Emocional en la clase B. Hubo mejoría en la calidad de vida después de la cirugía de la Imagen Corporal en la clase C, del Funcionamiento Social en B, y del Funcionamiento Cognitivo y de las Perspectivas de Futuro en todas las clases sociales. **Conclusión.** La calidad de vida de las mujeres empeora después de la cirugía de mama en una parte de las dimensiones estudiadas, lo que evidencia la necesidad de un

## Introduction

Global estimates pointed to breast cancer as the second most common type of cancer in the world (1.7 million), being second only to lung cancer (1.8 million), and it is the first most common among women (25.2 %). In 2012, it was estimated an incidence of 152 thousand cases of breast cancer,

trabajo interdisciplinario dedicado a la recuperación y rehabilitación de estas pacientes.

**Descriptors:** calidad de vida; neoplasias de la mama; salud de la mujer; enfermería.

### Qualidade de Vida de Mulheres com Câncer de Mama no Pré e Pós-Operatório

**Objetivo.** Avaliar a Qualidade de Vida no momento pré e pós-operatório de mulheres com câncer de mama submetidas à cirurgia e associar à classe socioeconômica. **Métodos.** Estudo longitudinal, realizado no Hospital Santa Rita de Cássia (HSRC), Vitória – ES, Brasil. Utilizou-se o instrumento EORTC QLQ C-30 e o EORTC BR-23 para mensurar a QV das entrevistadas antes e após cirurgia da mama. O critério de Classificação Econômica estabelece a seguinte divisão: A1, A2, B1, B2, C1, C2, D e E, sendo, A1 a maior renda. **Resultados.** O estudo incluiu 87 mulheres, 42.5% apresentaram 60 anos ou mais. Identificou-se a condição socioeconômica C como predominante entre as participantes (62%). A QV das mulheres no pré-operatório foi melhor nas dimensões Funcionamento Físico para a classe C e D; Emocional para a classe B. Houve melhora da QV após a cirurgia para Imagem Corporal na classe C, e para Funcionamento Social na B. Avaliando todas as classes sociais, somente as dimensões Funcionamento Cognitivo e Perspectivas Futuras melhoraram no pós-operatório. **Conclusão.** A qualidade de vida das mulheres após a cirurgia da mama piorou uma parte das dimensões estudadas, evidenciando necessidade de um trabalho interdisciplinar dedicado à recuperação e reabilitação dessas pacientes.

**Descritores:** qualidade de vida; neoplasias da mama; saúde da mulher; enfermagem.

followed by cancer of the cervix and intestine. The magnitude of the problem is clear.<sup>1</sup> According to the National Cancer Institute (INCA), the number of new cases of breast cancer estimated for the biennium 2016-2017 in Brazil is 57,960, in the same period, the Southeast Region estimates 29 760 new cases and 1,010 of them will happen

in Espírito Santo, where the incidence of breast cancer is 53.85 cases per 100 000 women. In the capital, Vitória, where the incidence of breast cancer is 77.86 cases per 100 00 women, 140 new cases are estimated.<sup>2</sup>

From the beginning, the treatment of breast cancer should be conducted by an interdisciplinary team to meet all the needs that the patient may have. Nursing plays an important role when articulating with the different professionals and in such a delicate and fragile moment seeks to provide the best assistance, clarification of doubts and reduction of insecurity.

Surgery, radiotherapy (for locoregional treatment), hormone therapy and chemotherapy (for systemic treatment) are among the most used therapeutic modalities. Each stage of treatment has its peculiarities and adverse reactions that can increase the level of stress of the woman, which may influence her QOL.<sup>3,4</sup> Quality of Life was defined by the World Health Organization as “the individual’s perception of their position in life, in the context of culture, expectations, standards and concerns” that is QOL can only be evaluated by the person.<sup>5</sup>

Although it is a terminology widely used in daily life, there is a difficulty in obtaining a consensus about its concept, since it is linked to the fact that it is subjective and difficult to conceptualize.<sup>6</sup> Subjectivity, individual perception, feelings and their health conditions can affect their QOL.<sup>7</sup> The socioeconomic level is directly related to this perception, for example, women in more favorable economic classes have higher QOL scores for the physical<sup>7</sup> and social<sup>8</sup> dimension and may face problems and sequels resulting from the treatment of breast cancer more successfully, as it may have more access to psychological support and better housing conditions,<sup>7,8</sup> as well as access to different sites that do not refer to breast cancer and offer more leisure opportunities and social coexistence.<sup>8</sup> The low socioeconomic level generates anxiety and fear, negatively impacting QOL, family dynamics, socio-affective network and the quality of the treatment to which these women are subjected.<sup>9</sup>

Considering the thematic as a relevant public health problem, it is sought the best understanding regarding the life changes presented by the woman affected by this cancer and submitted to surgery, and the impact on their general quality of life, and according to their social class. For this, it is important that issues related to the impact on the physical dimension (such as post-surgical limitations), the psychological dimension (anxiety, fear, depression, faith) and sexuality dimension (women sometimes feel attractive, less feminine) can be studied in depth, searching for basis for decision-making and direction of situations, aiming to help these women to overcome stigmas and manage limitations. Given the above, the objective of this study was to evaluate the Quality of Life at the pre and post-operative moments of women with breast cancer submitted to surgery and to associate it with the socioeconomic class.

## Methods

This is a longitudinal study, carried out at the Ylza Bianco outpatient clinic of the Santa Rita de Cássia Hospital (HSRC), maintained by the Feminine Association of Education and Fight against Cancer (Afecc) - Vitória - ES. HSRC is a philanthropic entity recognized throughout the state as a reference in cancer treatment, and it also offers general specialties. The population was composed of 87 (eighty-seven) women diagnosed with breast cancer and who underwent quadrantectomy or mastectomy in 2012 at HSRC. The inclusion criteria included women who were 18 years old or older, who had a diagnosis of breast cancer without previous treatment, and who were in the preparation phase for tumor removal surgery.

The women were recruited by the psychology team, through active search using the hospital’s surgical procedures agenda. Preoperative groups were performed at least 15 days before the surgical procedure and a maximum of six patients, in which health education was performed to prevent postoperative complications, as well as wound care and the teaching of rehabilitation exercises.

The meetings were held on two Wednesdays of the month, and had the support of a multi-professional team, with a nurse, psychologist, social worker, pharmacist, physiotherapist, and dentist. After the group, the women who met the inclusion criteria were invited to participate in the study, signing the informed consent form.

The data were collected by a research nurse during the months of May to December 2012, at the Ylza Bianco Ambulatory, where the questionnaires were applied in two moments: before surgery (moment 1) and in the post-surgery (moment 2), when the women attended the clinic to remove the incision stitches. The late postoperative period is the period preceding the 15<sup>th</sup> day of the procedure;<sup>11</sup> no woman was evaluated before this period. On average, the first moment was separated from the second by the minimum interval of 30 days. These two moments were chosen to understand what limitations and how the woman saw her way before the intervention and the short-term changes from the surgical procedure affected her quality of life. Data were collected on social and demographic characteristics to categorize the respondent's life situation. The socioeconomic class (CSE) was evaluated by possession of consumer goods and education of the head of the family, according to the Brazilian Economic Classification Criteria, which establishes the following division: A1, A2, B1, B2, C1, C2, D and E, where A1 is the highest income and E is the lowest income.<sup>12</sup> The objective of this procedure was to classify the social stratum of the participant, considered as a socio-demographic variable, and used in a study to evaluate the quality of life.<sup>7</sup>

The instrument used to measure the QOL of the interviewees was EORTC QLQ C-30 and EORTC BR-23. The first instrument is a general quality of life questionnaire, specific for cancer patients and it has been validated for Portuguese by Pais-Ribeiro, Pinto, and Santos.<sup>13</sup> It consists of thirty functional questions (physical, limitations, emotional, cognitive and social), and 3 symptom scales (fatigue, nausea, vomiting, and pain), a global scale of health status, 6 simple items assessing common symptoms to general cancer

patients (dyspnea, insomnia, constipation, diarrhea, loss of appetite, financial difficulties). In this study, the following variables were evaluated: Physical Functioning, Functional Limitations, Cognitive Functioning, Emotional Functioning, Social Functioning, Financial Difficulty, Global Health Status.

The second instrument is a specific module for breast cancer, which was translated and validated in 2007, published in 2013,<sup>14</sup> and composed of 23 questions divided into three groups. The first group investigated secondary symptoms to systemic therapy, so they were not evaluated. The whole second group was used, integrating: Sexual Function, Sexual Pleasure, Body Image and Future Perspectives, and the third group was used the Symptom in the Arm dimension.

From questions 1 to 28 and 31 to 53 the woman could choose: 1 = No, 2 = A little, 3 = A lot and 4 = Very much. In questions 29 and 30, there was a scale from 1 to 7, where 1 = poor and 7 = optimal. Scores were calculated according to the norms established by the EORTC, and the higher scores would indicate a better quality of life on the global health and functional scales and the smaller scores would indicate a better quality of life on the scale of symptoms.<sup>15</sup>

The data were organized in the Microsoft Office Excel 2007 for Windows program and analyzed through the Statistical Package for Social Sciences (SPSS), version 20.0. The non-parametric Wilcoxon test was used to compare the data obtained at the different moments of the research. The data were presented by the Box-Plot, of the statistically significant comparisons. For the comparison between the socioeconomic levels in the two moments separately, the non-parametric Kruskal-Wallis test was performed, for more than two independent samples. The level of significance was 5%. The research project was sent to HSRC's Affonso Bianco Study Center, with approval from the Institution on March 12, 2012, and to the Research Ethics Committee of the Federal University of Espírito Santo under number 29.909, with approval on May 31, 2012, in accordance with Resolution 196 of October 10, 1996, at the time in force.

**Table 1.** Presentation of the questionnaires, the domains used, and the corresponding questions. Vitória, 2012.

<b>EORTC QLQ C-30</b>	<b>Questions</b>
<b>Functional Scale</b>	
Physical	1- Do you have difficulty to make more violent efforts, for example, carrying a heavy shopping bag or a suitcase? 2- Do you have difficulty in walking a great distance? 3. Do you have difficulty to take a short walk? 4. Do you need to stay in bed or a chair during the day? 5- Do you need help for eating, dressing, washing, or going to the bathroom?
Functional Limitations	6. Did you feel limited in your job or the performance of your daily activities? 7 - Did you feel limited in the usual occupation of your free time or other leisure activity?
Cognitive	20 - Do you have difficulty concentrating, for example, to read the newspaper or watch television? 25 - Do you have difficulty remembering things?
Emotional	21 - Did you feel tense? 22 - Have you had any worries? 23 - Did you feel irritable? 24 - Did you feel depressed?
Social	26 - Did your physical condition or medical treatment interfere with your family life? 27 - Did your physical condition or medical treatment interfere with your social activity?
Global Health Status	29 - How would you rate your overall health during the last week? 30- How would you rate your overall quality of life during the last week?
<b>Scale of Symptoms</b>	
Financial difficulty	28- Has your physical condition or medical treatment cost you financial problems?
<b>EORTC-BR 23</b>	
Body image	39. Did you feel less physically attractive due to illness and treatment? 40. Have you felt less feminine because of the illness and treatment? 41. Have you had trouble looking at your body naked? 42. Did you feel unsatisfied with your body?
Sexual Functioning	44. To what extent did you feel sexual desire? 45- How far have you been sexually active?
Sexual Pleasure	46. To what extent did sexual relations give you pleasure?
Future Perspectives	43- Have you worried about your state of health in the future?
Symptom in the Arm	47. Do you have arm or shoulder pain? 49. Did you have difficulty lifting your arm or making lateral movements with it?

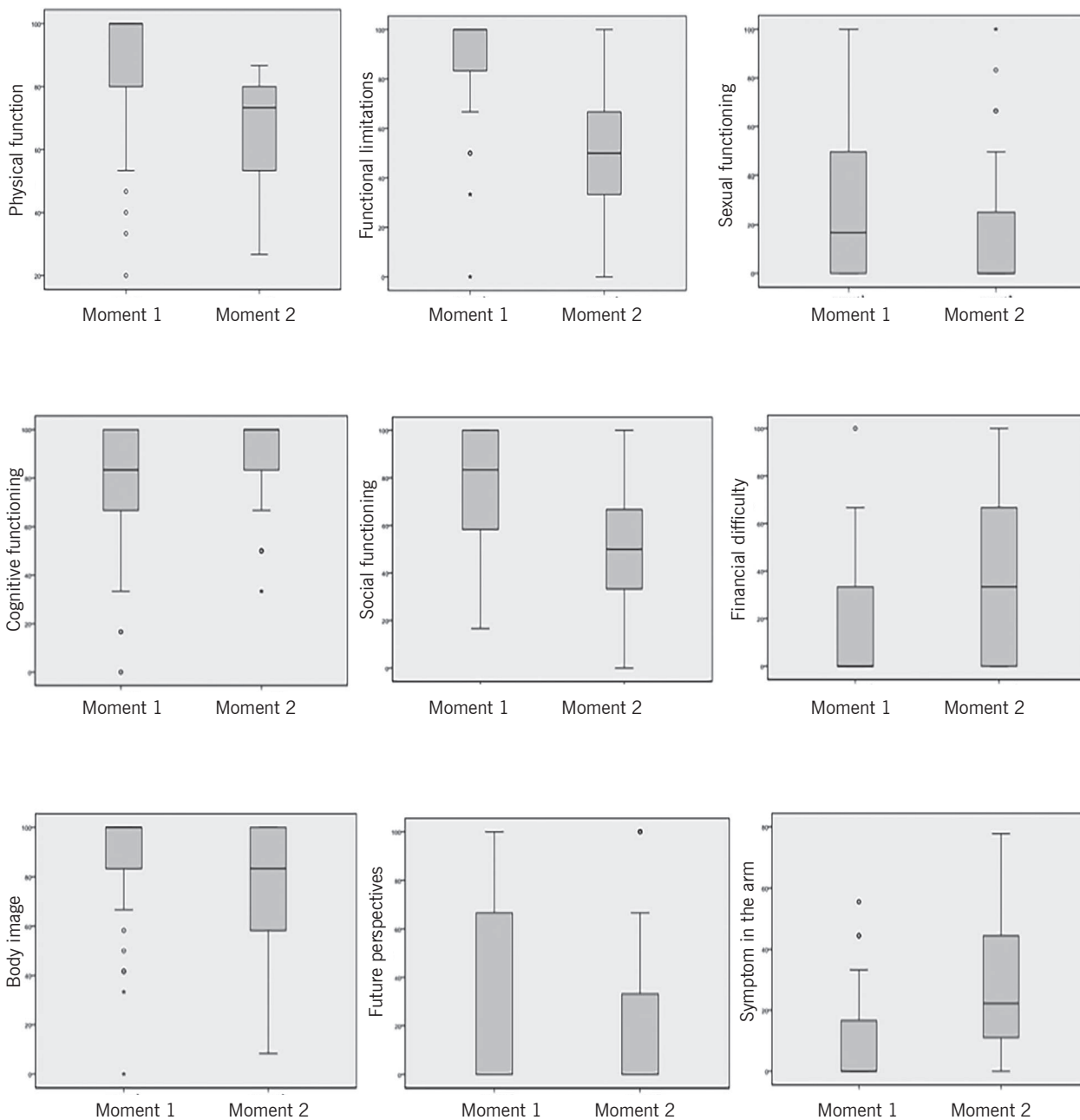
## Results

Table 2 shows the socio-demographic data of the interviewees. Figure 1 shows the medians of the statistically significant dimensions by the Wilcoxon test, when compared to the preoperative and postoperative dimensions, Physical Function,

Functional Limitations, Social Function, Sexual Function, Financial Difficulty, Body Image and Symptoms in the Arm presented worsening after the surgery. The Cognitive Functioning Dimensions and Future Perspectives improved in the postoperative period.

**Table 2.** Socio-demographic profile of women diagnosed with breast cancer. Vitória, 2012 (n=87).

Variables	Frequency (n)	%
Age group		
30 to 39 years old	5	5.7
40 to 49 years old	23	26.4
50 to 59 years old	22	25.3
60 years old or more	37	42.5
Marital status		
Single	9	10.3
Married/Stable union	51	58.6
Separate	8	9.2
Widow	19	21.8
Origin		
Grande Vitória	51	58.6
Interior	34	39.1
Other state	2	2.3
Ethnicity		
White	56	64.4
Black	6	6.9
Brown	25	28.7
Education level		
Illiteracy or up to the 3 <sup>rd</sup> grade of elementary school	46	52.9
Complete elementary school	14	16.1
Complete high school	15	17.2
Complete higher education	8	9.2
Socioeconomic condition		
Class B	17	19.5
Class C	54	62.1
Class D	16	18.4



**Figure 1.** Graph Box Plots of the differences between the preoperative (moment 1) and the postoperative (moment 2) for the statistically significant scores. Vitória, 2012

When the dimension scores were related to CSE, it was observed that the patients in the C and D classes presented better QOL levels at the preoperative moment in the Physical Function dimension, while those classified in class B

presented better levels in the Emotional Function dimension. In the postoperative phase, women of class C presented higher QOL in the Body Image dimension; and the women in CSE B had better QOL in the Social Functioning dimension (Table 3).

**Table 3.** Medians of the pre and postoperative moments according to socioeconomic classification and the respective p-values of the Kruskal-Wallis test. Vitória, 2012

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	86.6	100.0	100.0	<0.01	66.6	70.0	80.0	0.1
Functional Limitations	100.0	100.0	100.0	0.4	33.3	50.0	50.0	0.2
Cognitive Functioning	100.0	83.3	83.3	0.5	100.0	100.0	100.0	0.5
Social Functioning	83.3	83.3	100.0	<0.01	33.3	50.0	66.6	<0.01
Emotional Functioning	33.3	66.6	75.0	<0.01	66.6	70.8	75.0	0.4
Financial difficulty	0.0	0.0	0.0	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	83.3	75.0	83.3	0.2	66.6	66.6	70.8	0.3
Sexual Functioning	16.6	16.6	16.6	0.9	0.0	8.3	0.0	0.1
Sexual pleasure	66.6	66.6	33.3	0.3	0.0	66.6	33.3	0.1
Body image	91.6	100.0	100.0	0.3	58.3	83.3	75.0	<0.01
Future perspectives	0.0	33.3	0.0	0.1	0.0	0.0	0.0	0.9

## Discussion

The prevalence of breast cancer among women with the highest age group is related to the incidence of the disease in the female population. According to the National Cancer Institute (INCA), age remains the main risk factor for breast cancer, since incidence rates increase rapidly after 50 years old, and after that, this increase occurs more slowly.<sup>2</sup> Married women were also the majority in another study in breast cancer, which suggests that the presence of a partner is important, but their absence was not a risk factor.<sup>16</sup> HSRC is the only Center for High Complexity in Oncology (CACON) at Espírito Santo, assisting the entire state, beyond the south of Bahia and Northwest of Minas Gerais. The fact that its location is in the metropolitan region may have influenced the prevalence of women from Greater Vitória,

the capital of the state of Espírito Santo. The variable race/skin color, presented in the study as ethnicity, is a variable that transcends the biological issue, being an important determinant of the lack of equity in health,<sup>17</sup> being able to influence the determination of other variables, such as education.

Higher education attributes women to breast cancer a better QOL,<sup>8</sup> women with less than 8 years of education after mastectomy have worse scores on functioning and physical performance.<sup>18</sup> They are the women of less social classes, numbers that remain on the rise, evidencing a process of feminization of poverty. In Brazil, many families are headed by women and the most of them live in the metropolitan areas. When they divorce, in most of the cases, they are the ones who take care of their



children, and still have lower remuneration than men,<sup>19</sup> aggravating the scenario. When affected by breast cancer, they are taken by great tension and stress, as there is fear of compromising the well-being of their family.<sup>9</sup>

The Physical Functioning domain worsened after surgery, as well as Functional Limitations. A similar study found that women who perform total mastectomy when compared to those who undergo Segmented mastectomy have a worse evaluation in this dimension.<sup>18</sup> In Nepal, women with breast cancer had good results in the Physical Functioning dimension, especially women with higher education level. In the Sexual Function and Sexual Pleasure, QOL losses were higher.<sup>20</sup> Sexuality changes during life, especially when a disease such as breast cancer arises because it is a multidimensional phenomenon involving psychological, physical, cultural and social factors, and their treatment causes important temporary and permanent sequels.<sup>21</sup> The negative consequences that the removal of a tumor can have are associated, mainly to the body image and perception of sexuality, and the result can be perceived as mutilation, persisting even after the breast reconstruction.<sup>22</sup>

Patients with breast cancer suffer from reduced Cognitive Function<sup>23</sup> linked to memory and concentration function.<sup>13</sup> In this study, women presented cognitive improvement, a fact that may have occurred because they were still treatment-naive women, and cognitive Social Functioning.<sup>13</sup> The disease, especially in the younger women, can make them very vulnerable, as it is the moment when their life and professional partnerships are established, and it can be interrupted, often by very intense and time-consuming treatments.<sup>23</sup> Poorer women and with a mastectomy also have a worse QOL in this dimension.<sup>20</sup>

The decrease in income after breast cancer can occur due to physical limitations imposed by the treatment process, and this decrease in purchasing power generates impairment of quality of life.<sup>9</sup> In this study, Financial Difficulty was a dimension of statistical importance for worsening QOL, as

it happened in a study in Nepal, in which 90% of Nepalese assessed for this dimension had a fall in QOL, and in 84% this difficulty was due to cancer.<sup>20</sup> The dimension Body Image reflects the woman's interpretation of her physical attraction power and her femininity after illness and treatment, and the difficulty of seeing herself naked and satisfaction with her body.<sup>13</sup> There was a decrease in this dimension; authors claim that there is a process of reformulation and (re) elaboration after breast cancer, and it is difficult to even after placement of prosthesis.<sup>21,22,25</sup> The decrease in this dimension is significantly associated with depression.<sup>25</sup> The study found higher scores in the Body Image when married, older, literate, housewife patients with a diagnosis of fewer than 6 months.<sup>20</sup>

Limitations of movement, presence of edema and pain are related to Symptoms in the Arm.<sup>13</sup> After the surgery, the region undergoes a healing process; the patient needs to use a suction drain, and she is still afraid of rupturing the stitches. When Symptoms in the Arm are present, it decreases the QOL<sup>25</sup>. The perspective of the future is closely related to the quality of information that the patient receives at the time of diagnosis. The communication of the health team is extremely important for the establishment of links and desire for future perspective.<sup>26</sup> Even with so many limitations presented by the woman and shown in this study, the Future Perspective domain was positive, which demonstrates the psychological resilience of these women. Psychological Resilience is a person's ability to protect the mental health from confrontation, such as the diagnosis of breast cancer, which may change over time and have different variables that affect it.<sup>27</sup>

Patients with breast cancer who are more resilient verbalize symptoms of lower severity, and the less resilient ones report worse scores in the Body Image and Future Perspectives dimensions, besides presenting more serious adverse effects when in systemic therapy. Overall QOL is positively correlated to resilience levels,<sup>27</sup> literacy, better financial condition, type of conservative breast surgery, and good emotional support.<sup>20</sup>

## Conclusion

Women's QOL in the preoperative period was better in the Physical Function dimensions for class C and D; and Emotional for class B. There was improvement of QOL after surgery for Body Image in class C, and for Social Functioning in B. Evaluating all social classes, Physical Functioning Dimensions, Functional Limitations, Social Functioning, Sexual Functioning, Financial Difficulty, Body Image and Symptoms in the Arm presented worsening after surgery. The Cognitive Functioning Dimensions and Future Perspectives improved in the postoperative period. Overall, women's QOL after breast surgery worsened in the vast majority of the dimensions studied.

This study has limitations, such as the interval between the collection of the first and the second moment, about 30 days, and a small interstitial that impacts on the QOL to be evaluated more deeply. Another important aspect was the fact of measuring only such a subjective factor quantitatively, not analyzing discourses, only considering the score attributed to the woman to each of the dimensions. Even with the limitations, the study is assessed as relevant to assist in understanding the impact of an important procedure in women with breast cancer, surgery. This impact can be better worked by multi-professional and interdisciplinary teams, aiming at the provision of adequate care that transcends the breast and treats the body and the soul. Nursing has the sensitivity and competence necessary for comprehensive care, and to technical procedures, having the duty to clarify, along with the multi-professional team, the barriers that women may face, the adverse effects of medications, as well as minimizing the possible QOL losses, and reinforcing that the nursing team will be a great ally throughout the process and have refuge in the most conflicting moments.

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