

Quality of life in women with breast cancer undergoing chemotherapy

Qualidade de vida em mulheres com neoplasias de mama em quimioterapia

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Abstract

Objective: This study aimed to assess the health-related quality of life of women with breast cancer undergoing chemotherapy.

Methods: A cross-sectional study carried out in a specialized institution, comprising 145 women. Two standardized questionnaires for health-related quality translated and validated for the Portuguese language were used. The scores manual of the EORTC was used to calculate the domain scores of the questionnaires.

Results: According to the first questionnaire, the emotional function was the most affected. The treatment causes financial difficulties for most patients (mean = 41.83). The symptoms with the highest scores were Insomnia (37.93), Fatigue (36.01) and Loss of Appetite (33.56). According to the Quality of Life Questionnaire – Breast Cancer 23, the mean score for Side effects was 50.07, meaning that many women experience side effects of chemotherapy, and impaired sexual satisfaction.

Conclusion: Women with breast cancer showed changes in the following domains: financial, emotional, sexual satisfaction and future prospects. The most frequently mentioned symptoms were fatigue, insomnia and loss of appetite.

Resumo

Objetivo: Conhecer a qualidade de vida relacionada à saúde de mulheres com câncer de mama em tratamento quimioterápico.

Métodos: Estudo transversal realizado em instituição especializada, não qual foram incluídas 145 mulheres. Foram utilizados dois questionários padronizados de qualidade relacionada à saúde, traduzidos e validados para a língua portuguesa. Utilizou-se o Manual dos Escores da EORTC para calcular os escores dos domínios dos questionários.

Resultados: Segundo o primeiro questionário, a função mais afetada foi a emocional. O tratamento provoca dificuldade financeira na maioria das pacientes (média = 41,83). Os sintomas com os maiores escores foram Insônia (37,93), Fadiga (36,01) e Perda de apetite (33,56). Segundo o instrumento *Quality of Life Questionnaire – Breast Cancer 23*, o escore Efeitos Colaterais teve média de 50,07, significando que muitas mulheres apresentam efeitos colaterais da quimioterapia e satisfação sexual prejudicada.

Conclusão: Mulheres com câncer de mama apresentaram alterações nos domínios emocional, financeiro, de satisfação sexual e nas perspectivas futuras. Os sintomas mais mencionados foram fadiga, insônia e perda de apetite.

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Introduction

Breast cancer is a major public health problem because of its high incidence and mortality. This neoplasm is probably the most feared by women, especially by the negative stigma brought by its diagnosis⁽¹⁾ and due to its psychological effects, which affect the perception of sexuality and their own personal image.

This disorder has good options of treatment that enable patients to extend their lives. The choice depends on the stage of the disease, the tumor type and the general health of the patient. Among the procedures, chemotherapy is defined as the treatment using chemotherapeutic drugs to destroy the cells that comprise the tumor. Such drugs are mixed with the blood and carried to all parts of the body, thereby destroying the sick cells that form the tumor, preventing them from spreading throughout the body.⁽²⁾

There was a significant improvement in life expectancy of women with that disease because of the possibility of early diagnosis and the evolution of treatment methods. Thus, more researchers have been concerned about investigating the needs of survivors of breast cancer, aiming at a more global attention to the female group.⁽³⁾

Recent models of definitions and concepts of Quality of Life related to health are being applied to cancer patients. Validated instruments are used to measure and explore effects and symptoms of the disease, as well as to evaluate the Quality of Life after treatment. Currently, several specific instruments to measure the impact of disease on Quality of Life are called 'instruments of Quality of Life related to health'.^(4,5)

The aim of this study was to evaluate the health-related quality of life of women with breast cancer undergoing chemotherapy.

Methods

This is a cross-sectional study carried out in institutions specialized in the treatment of various types of neoplasms, in the city of Fortaleza, state of Ceará, northeastern region of Brazil.

The study included a convenience sample of 145 women with breast cancer, who were undergoing chemotherapy in the period between April and July 2012, with the following inclusion criteria: age greater or equal to 18 years, diagnosed with breast cancer at any stage of disease, being on chemotherapy from the second cycle, following the mentioned months of the cycle, and being present every day of the week.

The following instruments were used: socio-demographic and clinical form; European Organization for Research and Treatment of Cancer 30-Item Quality of Life Questionnaire (EORTC QLQ-C30), version 3.0, in Portuguese; and Quality of Life Questionnaire Breast Cancer - 23 (QLQ-BR23). The EORTC QLQ-C30 and the QLQ-BR23 are questionnaires of Quality of Life related to health, translated and validated in Portuguese; the use of both questionnaires is authorized by the European Organization for Research and Treatment of Cancer (EORTC).⁽⁶⁾

The Statistical Package for the Social Sciences (SPSS), version 20.0 was used for data analysis. The scores manual of the EORTC was used to calculate the domain scores of the questionnaires. All mean scores were transformed linearly into a scale from zero to one hundred points, as described in the manual, where zero represents the worst health status and one hundred the best state of health - except for the symptom scale, in which the higher score represents more symptoms and the worst quality of life. Thus, a high score in the functional scale meant a healthy functional level, while a high score in the symptom scale represented a high level of symptoms and side effects.

Demographic data were evaluated by descriptive analysis of the variables selected for the characterization of sample. A descriptive statistical analysis of sociodemographic, clinical and therapeutic data of the EORTC QLQ-C30 and the QLQ-BR23 was done through calculation of mean, standard deviation and Pearson's correlation coefficient.

The development of the study met national and international standards of ethics in research involving human beings.

Results

The sample consisted of 145 women who were in neoadjuvant and adjuvant chemotherapy for breast cancer.

Table 1 refers to the sociodemographic characteristics of the studied women.

Table 1. Sociodemographic data of patients

Variables	n(%)	Mean ± SD
Age range, years		
Up to 35	8(5.5)	52±11
36-45	37(25.5)	
46-55	42(29.0)	
56-65	46(31.7)	
66-82	12(8.3)	
Marital status		
Without partner	63(43.4)	
With partner	82(56.6)	
Income, minimum wage*		
Up to 1	83(57.2)	2.14±3.63
1-2	25(17.2)	
3-4	17(11.7)	
5-40	20(13.8)	
Origin		
Capital	54(37.2)	
Interior	89(62.8)	
Years of education		
1-4	38(26.2)	2.23±0.98
5-8	50(34.5)	
9-11	43(29.7)	
12 or more	14(9.7)	

Source: Regional Center of Chemotherapy and Santa Casa de Misericórdia, Fortaleza (CE), 2012.
*The minimum wage at the time of research was R\$ 622.00; SD - Standard Deviation

The average age in the studied group was 52±11 years, ranging between 29 and 82 years. In relation to marital status, 82 women (56.6%) had a partner, i.e., were married or living in a stable union. Regarding the monthly income, 81 women (55.9%) received at least a minimum wage; 25 (17.2%) patients received between one and two minimum wages and were in treatment by the Unified Health System; 20 (13.8%) patients had monthly income above five minimum wages and in treatment with the health insurance plan.

Regarding the origin of patients, 86 (59.3%) of them were from the interior of the state; 54 women

were from the capital (37.2%) and three from other different states (3.5%).

With respect to the years of study, 38 women (26.2%) had 1-4 years of study and 50 women (34.5%) had 5-8 years of study, equivalent to uncompleted and complete primary education. In addition, 43 (29.7%) women at least started high school and studied 9-11 years. Only 14 women (9.7%) started or finished college.

Table 2 shows the clinical data, such as combined therapy, chemotherapy regimens and treatment time, its absolute values, percentage, mean and the standard deviation of each variable.

Table 2. Clinical characteristics

Clinical characteristics	n(%)	Mean ± SD
Combined treatment (n=145)		
No	63(43.4)	
Yes	82(56.6)	
Chemotherapy regimens (n=145)		
TAC (docetaxel+doxorubicin+cyclophosphamide)	54(37.2)	
AC (adriablastina + cyclophosphamide)	18(12.4)	
Others	73(50.3)	
Time of treatment (n=142), months		
< 6	99(68.3)	5.61±6.97
> 6	46(31.7)	

Source: Regional Center of Chemotherapy and Santa Casa de Misericórdia, Fortaleza (CE), 2012.
SD - Standard Deviation

Regarding clinical data, 63 patients (43.4%) had not undergone any other treatment, therefore, the event consisted in a neoadjuvant chemotherapy. Eighty-two (56.6%) other women had undergone other treatments prior to chemotherapy (surgery or radiotherapy).

The most frequently used schemes were TAC (docetaxel + doxorubicin + cyclophosphamide) in 54 women (37.2%) and AC (adriablastina + cyclophosphamide) in 18 women (12.4%). The predominant treatment time in the studied sample was <6 months in 99 women.

Table 3 shows the descriptive data (mean and standard deviation) relating to the results obtained in the EORTC QLQ-C30 and QLQ-BR23 scales.

It is noteworthy that the score of the Global Quality of Life (76.14) is nearer to one hundred, which is considered reasonable or satisfactory by women.

Table 3. Mean and standard deviation of the items of functions and symptoms of the questionnaires: *European Organization for Research and Treatment of Cancer 30-Item Quality of Life Questionnaire (EORTC QLQ-C30)* and *Quality of Life Questionnaire Breast Cancer - 23 (QLQ-BR23)*

Items	Mean ± SD
Functions*	
Physical (n=145)	70.39±25.04
Role performance (n=145)	64.13±34.43
Cognitive (n=145)	73.33±27.94
Emotional (n=145)	61.32±29.01
Social (n=145)	76.89±28.06
Body image (n=145)	73.79±31.91
Sexual (n=145)	72.41±34.54
Sexual satisfaction (n=66)	50.50±34.21
Future perspectives (n=145)	46.20±42.34
Symptoms****	
Fatigue (n=145)	36.01±27.38
Pain (n=145)	28.39±32.87
Nausea and vomiting (n=145)	28.62±29.89
Dyspnea (n=145)	10.34±23.41
Insomnia (n=145)	37.93±43.32
Loss of appetite (n=145)	33.56±38.98
Constipation (n=145)	29.88±37.21
Diarrhea (n=145)	20.68±32.41
Financial difficulty (n=145)	41.83±40.59
Side effects (n=144)	50.07±21.22
Symptoms related to the arm (n=145)	22.06±23.27
Symptoms related to the breast (n=145)	22.47±17.76
Hair loss (n=130)	37.43±44.12
Overall quality of health (n=145)	76.14±23.54

Source: Public Institutions Fortaleza (CE), Brazil, 2012.

*The closer to one hundred, the better the Global Quality of Life; **The closer to one hundred, the worse the Global Quality of Life; SD - Standard Deviation

With regard to the functions according to the EORTC QLQ-C30 scale, scores were high in the following items: Physical Function (70.39), Role performance (64.13), Cognitive Function (73.33) and Social Function (76.89), indicating a level between regular and satisfactory. Most patients showed no confinement in bed, did not need help with bathing, dressing, eating, were not prevented from doing leisure activities, presented no difficulty with concentrating and / or remembering information,

and also the physical condition and the treatment did not interfere in family life and social activities. The lowest score was the Emotional Function (average 61.32), indicating feelings of slight tension, anger, depression or worry.

In the symptom scale, the highest scores were Insomnia (37.93), Fatigue (36.01) and Loss of Appetite (33.56). Thus, part of the women had some (albeit little) difficulty with sleeping, fatigue, appetite loss.

The result of this research showed the mean value of the low score for symptoms of Pain (28.39), Nausea and Vomiting (28.62), Dyspnea (10.34), Diarrhea (20.68) and Constipation (29.88). This may mean that these symptoms had little interference in daily activities.

In this sample, the physical condition and the treatment caused some financial difficulties (average 41.83).

Regarding the subscales of the QLQ-BR23 instrument, the result shows 50.07 as the score for Side effects, meaning that many women experience side effects of chemotherapy. The most affected scores were Hair Loss (37.43), Arm Symptoms (22.06) and Breast Symptoms (22.47). The high score on Body Image (73.79) means that there was good acceptance of this feature. The high score for Sexual Function (72.41), on its turn, revealed that the practice of sexual intercourse continues for most patients, however, the Sexual Satisfaction (average 50.50) was unsatisfactory or impaired. In relation to the concern about future, the mean was 46.20.

Discussion

The limitations of the results of this study are related to the cross-sectional design that does not allow establishing relations of cause and effect.

The patients with breast cancer receiving chemotherapy showed considerable changes in the Global Quality of Life and its various dimensions. The women in this study considered their state of health and the quality of life as satisfactory, which was evidenced by the score of the Global Quality of Life (76.14).

The EORTC QLQ-C30 scores were high for Physical Function (70.39) Role performance (64.13), Cognitive Function (73.33) and Social Function (76.89), indicating a level between satisfactory and regular of these functions. In contrast, women who received chemotherapy showed a significant decrease in physical, social and cognitive function between the beginning and end of treatment (six complete cycles of chemotherapy). The results may provide support for planning the nursing care for women undergoing chemotherapy.⁽⁷⁻¹⁰⁾

The score of the Emotional Function (mean 61.32) was considered the lowest among the functions of the first scale. It was observed that psychological distress in patients with breast cancer is related to depression, anxiety and low emotional function, and also to decreased quality of life, especially in the emotional function and mental health.⁽¹¹⁾

It was identified that the magnitude of change in psychological anguish has a significant impact on the physical and functional state, but not in the social condition of Quality of Life. The anguish is more closely related to symptoms, treatment factors or loss of skills than to family or social relationships.⁽¹²⁻¹⁵⁾

The most affected symptoms on the scale of symptoms were Insomnia (37.93), Fatigue (36.01) and Loss of Appetite (33.56). It is common to have increased fatigue and loss of appetite in women with breast cancer at this stage.⁽⁸⁾ With respect to items of the QLQ-BR23 instrument, the result showed a mean score of 50.07 for Side Effects, in other words, many women had side effects of chemotherapy.

Among the physical effects of chemotherapy, Fatigue was the most prevalent symptom reported and source of high stress for patients. This symptom was accompanied by complaints of lack of energy, exhaustion, loss of interest in previously pleasurable activities, weakness, dyspnea, pain, changes in taste, rash, sluggishness, irritability and loss of concentration.^(16,17)

The physical condition and the treatment caused some financial difficulty (mean 41.83) in most patients. During treatment, the patient experiences physical and financial losses, and adverse symp-

toms such as depression and decreased self-esteem, requiring constant adjustments to the sociological, social, family, physical and emotional changes. In addition, limitations may occur in activities of daily life and biopsychosocial changes that may also interfere with quality of life, such as job loss.⁽¹⁸⁻²⁰⁾

The score of Sexual Satisfaction has a mean of 50.50, showing there was relative dissatisfaction in the quality of the relationship. In young patients, the interruption or dissatisfaction with sex life was related to a poor quality of life, to chemotherapy, total mastectomy and difficulties with partner, with respect to sexual relations. Researches suggests that problems with sexual functioning are common in women with breast cancer undergoing chemotherapy.^(11,21,22)

Studies on the quality of life related to health encompass both clinical morbidity caused directly by the disease state, as the influences of disease and treatments on daily activities and satisfaction with life. Intervention strategies can be formulated by evaluating aspects of quality of life related to health, in order to minimize the effects of the disease of progressive character, and improve aspects of quality of life.⁽²⁰⁾

Conclusion

Women with breast cancer showed changes in the following domains: financial, emotional, sexual satisfaction and future prospects. The most frequently mentioned symptoms were fatigue, insomnia, and loss of appetite.

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Collaborations

Lôbo AS and Fernandes AFC contributed to the project design, analysis and interpretation of data, drafting the article and final approval of the version to be published. Brillhante AF contributed to the data collection. Almeida PC collaborated with the

analysis and interpretation of data and final approval of the version to be published. Carvalho CML and Sawada NO collaborated in writing the article and final approval of the version to be published.

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