Commitment to the Quality of Global Life and Emotional Function of Women with Cancer in Chemotherapy

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Abstract

Objectives: To evaluate the quality of life and the impairment of the emotional function of women with breast cancer under chemotherapeutic treatment, in relation to sociodemographic and clinical characteristics.

Method: Observational, longitudinal, and analytical research; conducted between 2013 to 2015 with 67 women in three stages of chemotherapy treatment in a public referral teaching hospital in Paraná. Two questionnaires, one for socio-demographic and clinical data, and the Quality of Life Questionnaire-C30 were used for data collection.

Results: The overall quality of life was considered satisfactory in the three stages of the research, the emotional function was affected significantly, when associated with sociodemographic and clinical variables, and the highlight was for the variable having children and staging. The quality of life measurement becomes a viable tool to verify the biopsychosocial needs of women with breast cancer and can assist the Nurse for holistic attention.

Keywords: Oncological Nursing; Quality of Life; Emotional Stress; Breast Cancer; Chemotherapy

Introduction

Breast cancer is the most common neoplasm among women; there are approximately 1.7 million new cases worldwide and high mortality rates, Therefore, as a cause of death in women, due to lung cancer [1]. In Brazil, the new cases estimate for 2018/2019 is 59,700; and the number of deaths was 15,403 women in 2015 [2].

It has a good prognosis if diagnosed early, but it has high mortality rates, possibly related to the late diagnosis [3]. The choice of treatment is according to the stage of the disease. Locally, surgery and radiotherapy are used. The systemic treatment used is chemotherapy, biological therapy, and hormone therapy. Generally, more than one therapeutic method is associated with an increase in the possibility of cure, making possible a less aggressive surgery, preserving the aesthetic and compromised organs [4]. Chemotherapy is a widely used treatment, due to its systemic action that provides increased survival. It is classified according to its therapeutic purpose and can be used for neoadjuvant, adjuvant or palliative [5]. It is one of the most aggressive treatments, due to the prolonged duration of therapy and its adverse events, such as: fatigue, nausea, alopecia, skin, mucositis, infections, and febrile neutropenia, among others, as well as emotional changes [6].

All of them are associated with a decrease in quality of life (QoL), especially in emotional function, causing tension, irritability, depression, and preoccupation with activities of daily living, such as home caring, children and work [7].

In a systematic review in Canada of stress-causing factors for women with breast cancer, it was identified that chemotherapy treatment is a key predictor of changes in emotional function by altering the QoL in women undergoing this treatment modality [8]. Corroborating with this review, a study carried out in Egypt with 142 women with breast cancer, aiming to compar quality of life and treatment received, showed that women undergoing chemotherapy had lower scores on emotional functionality compared to hormone therapy and radiotherapy [9].

A study of 60 women in breast cancer treatment in Nigeria concluded that the QoL of these women is impaired and that the emotional domain scores were lower in post-mastectomy patients in adjuvant chemotherapy compared to those who only went through chemotherapy and premenopausal women with breast cancer [10].

Accepting the disease and adhering to the treatment is hard to conduct emotionally, not only woman are affected, but the relatives and their companions. The confrontation of the news about the diagnosis of a disease with a strong context of death stigma, generate feelings of anxiety that will impact in the QoL of all who are experiencing the disease process [11].

Quality of life involves several factors in the life of a human being, it can be considered in many aspects such as physical, mental / cognitive, emotional, social and functional; including also, relationships, health perceptions, fitness, life satisfaction, well-being, as well as patient satisfaction with treatment and its outcomes, health status and future prospects [12].The knowledge of the factors that alter it, is a resource to evaluate the results of therapy from a patient's perspective, allowing the identification of the affected functions and planning the interventions that help the woman to overcome this phase easily [13,14].

The negative impact of the diagnosis of breast cancer and its treatment in woman's life is well studied, but its focus is on side effects, self-image and the proximity to death and its relation with QL, therefore, it is perceived that emotional function is only cited in the articles without being explored [15]. Knowing how the emotional function interferes in the QoL of these women and their relationship with the sociodemographic and clinical profile will be useful to the elaboration of a nursing care plan.

In this context, the proposal of this research was to evaluate the global quality of life and impairment of the emotional function of women with breast cancer in chemotherapeutic treatment, relating to their sociodemographic and clinical characteristics.

Methodology

Observational, longitudinal, and analytical research. Held between May 2013 and May 2015, at the hematology-oncology outpatient clinic of a public referral teaching hospital in the state of Paraná, Brazil.

Included in the study were women diagnosed with breast cancer, older than 18 years old, which were starting neoadjuvant or adjuvant chemotherapy. Those who had received prior chemotherapy treatment and were not treated on the first day of treatment were excluded.

Of the 81 women who were attended in the period and invited to participate in the study, 14 were excluded. Nine were not addressed on the first day of chemotherapy, three would undergo palliative therapy and two refused.

The Data collection took place in three phases of treatment. In the first phase on day 1 of the chemotherapy with the questionnaires: (1) demographic and clinical partner and (2) Quality of Life Questionnaire-Core 30 (QLQ-C30). The second phase was between days 40 to 50 after the start of chemotherapy and the third between days 90 and 100, both with the QLQ-C30 questionnaire. The temporality between the collections was determined by the onset of symptoms that may alter the self-image and by the possible adaptation of the patient with these symptoms.

The socio demographic and clinical questionnaire contained questions related to family structure, social, life habits and clinical characteristics. The QLQ-C30 questionnaire developed by the European Organization for Research and Treatment of Cancer, translated and validated in Brazil. It contains 30 items, divided into five functional scales (physical, emotional, cognitive, social, and personal performance), three scales of symptoms (which include: fatigue, nausea and vomiting, pain, dyspnea, insomnia, loss of appetite, constipation, and financial difficulties), two questions on general health and six individual items [16]. It should be noted that for this research only the emotional function was analyzed.

The first stage of the research consisted of 67 women who answered the questionnaires. Being that 53 carried out the neoadjuvant therapy 14 to the adjuvant. In the second stage, 66 women participated with discontinuation of one due to chemotherapy toxicity. In the third stage, 61 women participated, with four discontinuities due to lack of contact within the stipulated period and one due to chemotherapeutic toxicity.

The sociodemographic data were evaluated by absolute frequency and relative to the characterization of the participants; the questionnaire scores applied were calculated according to the norms established in the EORTC Scoring Manual, which determines that the results of the questionnaires should be grouped in the respective scales, expressed in scores ranging from 0 to 100 [17]. For the emotional function, a higher score represents a higher level of functionality and a better general state, respectively, which corresponds to a higher QoL.

Later, when comparing QOL and emotional function between the three sampling phases, Friedman's non-parametric test was applied to each of the scores complemented by the Significant Minimum Difference test of multiple comparisons. The Spearman, Kruskal-Wallis (KW) and Mann Whitney (U) tests were used. The association with sociodemographic and clinical data. Results with p value equal or below 0.05 were considered significant.

Regarding the ethical aspects, it is highlighted that the use of the QLQ-C30 questionnaires was authorized by the EORTC. The research was approved by the Research Ethics Committee of the scenario institution under opinion number 518.067, on January 20, 2014.

Results

The sociodemographic data of the 67 women presented in (Table 1) point out that the average age of the participants was 51.3 years, 41 (61.2%) are married or amassed, and 43 (64.2%) have one to three children. Twenty-nine (43.3%) studied less than nine years, which includes incomplete or complete primary education. The average family and per capita income was 2.8 and 1.1 minimum wages (MW), respectively; in which the MW in force in 2015 was R$ 788.00 and approximately US$ 241.72.

Variables		
Age (Years old)	M=51,3	30 ↔ 77
	n=67	%
20–35	6	8.9
36–49	24	35.8
50–59	19	28.4
60 above	18	26.9
Marital status		
Single	8	11.9
Married or amassed	41	61.2
Divorced	8	11.9
Widows	10	15
Number of Kids		
None	10	15
1 to 3	43	64.2
3 or more	14	20.8
Education		
Up to 9 years of study	29	43.3
9 to 12 years of study	19	28.4
More than 12 years of study	17	25.4
Did not answer the question	2	2.9
Occupation		
Active	38	56.7
Retired	9	13.4
Home workers	17	25.4
Unemployed	3	4.5
Family income	2.8*	-
Per capita income	1.1*	-

Note: * value in Brazilian Minimum Wage

Table 1: Sociodemographic characteristics of women with breast cancer undergoing chemotherapy. Curitiba, PR, Brazil, 2015

Regarding life habits, 43 (64.2%) women were not smokers; 51 (76.1%) did not drink alcohol and 50 (74.6%) did not practice any type of physical activity. Regarding the time elapsed from the date of diagnosis to the beginning of the chemotherapy treatment, the same ranged from 16 days to 183 days. It was evidenced that the clinical stage (CS) III is frequent in 55 (82%) and the predominant chemotherapy treatment was neoadjuvant with 53 (79.1%).

Regarding data from the QLQ-C30 questionnaire (Table 2), it was observed that the overall quality of life was considered satisfactory in the first phase of the collection (first day of chemotherapy) and the emotional function obtained the highest mean in third stage (63.2%).

Quality of Life Questionnaire – Core 30 (QLQ C30)					
	1ª Stage *n*=67		**2ª Stage *n*=66**		**3ª Stage *n*=61**	
Domains	Average	DP	Average	DP	Average	DP
Global Quality of Life	74.63	22.54	71.46	20.88	69.13	23.24
Emotional Function	50.25	32.56	60.73	29.34	63.25	27.49

Table 2: Descriptive measures of the QLQ-C30 domains in the three stages of the research. Curitiba, PR, Brazil, 2015

The results of the QLQ-C30 questionnaire regarding the comparison between the three stages of the research (Table 3) showed that the emotional function was significant between the first and second stages and between the first and third stages.

Quality of Life Questionnaire – Core 30 (QLQ C30)									
Domains	1ª Stage	2ª Stage	*p*- Value	1ª Stage	3ª Stage	*p*-Value	2ª Stage	3ª Stage	*p*-Value
Global Quality of Life	74.63	71.46	ns**	74.63	69.13	ns	71.46	69.13	ns
Emotional Function	50.25	60.73	<0.05*	50.25	63.25	<0.05*	60.73	63.25	ns

Note: *Significant **ns-non-significant
Table 3: Significant domains of the QLQ-C30 questionnaire in the modalities of neoadjuvant and adjuvant chemotherapy between the three stages of the research. Curitiba, PR, Brazil, 2015

After analyzing the data presented, the association of the most frequent sociodemographic variables in the literature with the domain of Quality of Life of the QLQ-C30 questionnaire was performed. The association occurred between the three stages of the research in order to identify which factors alter the QoL and the moment in which it occurred. It is possible to observe that the association between staging and global QoL was significant between the first and third stages of the research (Table 4). In Table 5, the association between emotional function and the children variable was significant in the third stage of the research.

Sociodemographic varieties	Global quality of life			
	1ª Stage	2ª Stage	3ª Stage	Test
Age	0.96	0.58	0.15	KW
School level	0.67	0.36	0.88	KW
Familiar income	0.29	0.65	0.50	KW
Diagnosis time	0.80	0.40	0.14	*Spearman*
Comorbidity	0.27	0.47	0.32	U
Staging	**0.04***	0.48	**0.01***	KW

Note: **p* Significant value
Table 4: Descriptive data about the association between the global QOL domain and the sociodemographic variables in the three stages of the research. Curitiba, PR, Brazil, 2015

Sociodemographic varieties	Emotional Function			
	1ª Etapa	2ª Etapa	3ª Etapa	Teste
Age	0.76	0.91	0.18	KW
marital status	0.40	0.76	0.95	KW
Kids	0.41	0.98	**0.00***	*KW*
Occupation	0.15	0.66	0.46	KW
Familiar Income	**0.20**	0.48	0.46	KW

Note: **p* significant value, KW – *Kruskal Wallis*
Table 5: Descriptive data of the association between QLQ-C30 emotional function and sociodemographic variables in the three stages of the research. Curitiba, PR, Brazil, 2015

Discussion

In this study it was observed that the mean age was 51.3 corroborating with studies carried out in Brazil in the state of Santa Catarina, where the mean age was 52.9 years old [18]. Other international studies differ from this finding and indicate averages of age over the age of 60, as in Italy, where the mean was 67 years old [19]. Studies by the American Cancer Society (2015) state that the probability of developing breast cancer increases gradually with age, being 1.9% (up to 49 years old), 2.3% (50-59 years old), 3.5% (60-69 years old) and 6.7% (70 years old or more) [20]. However, possible changes are occurring in relation to age, as evidenced in the review 18.7% of the diagnosed cases in the world population were before the age of 40 years old. In the present study, 17.1% (n = 12) of the women had 30 to 39 years old in the diagnosis, which corroborates with this possibility of changing the epidemiological profile.

Although the proportion is small, cancer in young women is biologically more aggressive, with late diagnoses and worse outcomes [21]. These data serve as a warning to professionals about the care given to these age groups to maintain good living conditions, as well as to cover practices of prevention of the disease in these women at the primary level, since all come from Brazil's Unique Health System (UHS). It is important to note that in this age group, women are at the peak of their family and professional life, and receiving the diagnosis of breast cancer influences their personal and family prospects, consequently will change their emotional function and QoL.

In this study, 43.3% of the women studied less than 9 years. In a study in Turkey, it was also evidenced, low level of schooling [22]. It is emphasized that this variable can influence the knowledge, the understanding of the disease and the therapeutics. The demands

of care that both generate can compromise the survival and QoL of these women, due to the fast evolution of the disease and the aggressiveness of the therapy. Thus, promotion and prevention actions should be directed according to the woman's understanding, aiming at an improvement of the global QoL.

Regarding lifestyle, there were predominant non-smokers, who did not consume alcoholic beverages and did not perform physical activities, there was data corroborating a cross-sectional study in Campinas, SP, BR. with 622 women that evaluated the prevalence and factors related to the occurrence of cancer in women over 50 years old [23]. In a systematic review of risk factors and protection for breast cancer, a study of 182.862 women in the United States showed that physical activity exerted a protective factor when performing regular weekly exercises, or more than 3 times a week [24]. Other studies have shown physical activity as an aid in the physical and emotional recovery of the women being treated, with a consequent improvement in QoL [25,26].

Diagnosis and treatments modify women's lifestyle and behavior in relation to their health. It is incumbent upon health professionals to encourage the practice of regular physical activities by highlighting the benefits for women's health before, during and after the therapeutic period, considering the moment experienced and its limitations.

Between the pathological diagnosis and the beginning of treatment, the mean time was 57.1 days, ranging from 16 to 183 days, with the first treatment modality being neoadjuvant. Authors point out that this significant delay occurs in women with primary level of study and argue that the higher-level ones have better abilities to understand the health system and seek treatment in an agile way [27]. It is worth mentioning that advanced stages III and IV with a diagnosis time greater than 6 months result in high mortality rates and neoadjuvant therapy is considered a standard in the treatment of inoperable breast cancer [28,29]. These conditions decrease survival, emotional function and worsening QoL.

It can be observed that the late diagnosis is focused on several factors related to the characteristics of the population, the low educational and socioeconomic level, and the tracking policies. Thus, it is important that the health professionals' interventions are at all levels of attention to provide these women agile care, according to their reality, with a view to better prognosis and living conditions.

In this study, the overall quality of life measured by the QLQ-C30 questionnaire was considered satisfactory (74% ↔ 69%), similar to the study in Ceará with 145 women with breast cancer undergoing chemotherapy, with a mean of 76.14% [7]. In another study in the United States with 402 women, the means were 83.4% for women under 50 years old, 84.1% between 50 and 65 years old, and 80.5%, reporting that women have a good QoL, with minimal treatment-related symptoms, possibly because they are diagnosed early and use less aggressive treatments [30].

In England, a TACT trial trial (CRUK / 01/001) comparing 830 women in different chemotherapy regimens for their effects and impact on QoL, baseline, during treatment (cycles 4 and 8) and after follow-up (9, 12, 18, 24 months and 6 years) showed that the mean values of global QoL ranged from 58.3% to 83.3%, with significant differences during chemotherapy in cycle eight, and major and similar scores at baseline and after the treatment [31]. This result demonstrates the impact of chemotherapeutic treatment on women's lives at various stages of treatment and demonstrates the need for constant assessments by practitioners to assist them in this period.

The emotional function was low and compromised with averages of 50% ↔ 63%, which indicates that these women may be tense, depressed, irritated and / or worried during therapy. These data were significant at all stages of the research, with impairments in this function in the lives of these women. In the study by Fange (2013) the emotional function had one of the worst scores (48.4%). The authors point out that cancer causes changes related to women's independence, feelings of imminent death, and disabilities that cause shame, fear and anguish, deteriorating their emotional aspects [32].

Accordingly, in the study of Turkey, the emotional well-being domain was one of the most negatively affected, with a score of 11.90%, which characterizes patients who are worried, fearful, sad, tired, and affected by the adverse effects of chemotherapy [22]. The authors reiterate the need for strategies of emotional support by the nurses to these patients, to better cope with the negative feelings and concerns that persist in this period and impact on their QoL.

A study conducted in Alagoas, between 2013 and 2014, aiming to understand the experience of the young woman diagnosed with breast cancer and mastectomies; observed that the woman discovers in her children the courage to become a warrior, to follow the treatment and to seek healing, making her strong and secure in her decisions [33]. This study converges with what we found in our research, in which the emotional function was one of the most impaired domains, and in relation to sociodemographic data, we identify the concern with the children, as a factor that impairs the emotional function.

Child support is an important source of strength and courage to confront the disease and the course of therapy, and for woman, they are more important in their life than any treatment. Extended care for the family becomes an essential part of their recovery, which must be constantly supported and updated in the health situation of women.

It is important to highlight that in this research the diagnosis had an impact on the emotional life of women, with maintenance of the scores during the therapy, probably related to the late diagnoses that lead to mutilating treatments. This study reveals that high levels of anxiety are associated with impaired emotional function during and after therapy.

It should be noted that the insertion of the psychologist in the outpatient clinic where this research was carried out beginning in 2014 about a year before the research was performed, in this way most of the women did not count on their performance during the chemotherapy period, showing levels of high commitment in this field.

The diagnosis of breast cancer causes changes in the lifestyle of women and influence their routine and well-being. It is a stigmatized disease accompanied by fear, anguish, worry and impotence in the face of adversity, which persists or intensifies during treatment. These, for now aggressive, such as chemotherapy, cause adverse events that impact on your life. In this trajectory, the nurse equipped with technical knowledge with humanized actions can assist them, with individualized actions and directed to these significant aspects in the QoL.

Quality of life for its multidimensional face succeeds in covering all the altered aspects in the lives of women due to breast cancer and its treatments. The consequences in the emotional sphere are peculiar to the individual characteristics of each woman and require follow-up of the nurse for the accomplishment of an integral assistance, with restoration of the conditions of life.

This study had as a limitation the low inclusion of women in the study and due to having longitudinal character we had segment loss.

Conclusion

Women considered their QoL and overall health satisfactory; however, they presented a compromise in the emotional function. The different treatments to which they are submitted compromise their lives in varied ways; both surgery and chemotherapy are procedures that cause modifications.

In this research, emotional function was one of the most impaired domains, and in the correlation with sociodemographic data, it was related to children's concern. Their support is an important source of strength and courage to cope with the disease and the course of therapy, and for the woman, they are more important in their lives than any treatment.

Quality of life measurement becomes a viable tool to verify the biopsychosocial needs of women with breast cancer under their perspective, their life experience and culture in which they are inserted. Thus, valuing QoL as a starting point for women's needs is a path to be followed, challenging but relevant and rewarding for women and their families as well as for professionals.

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