

# Quality of Life of Patients with Breast and Gynecological Cancer Faced with Anticancer Chemotherapy

**ORIGINAL**

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## Abstract

**Background:** The evaluation of quality of life in cancer patients is of interest to researchers due to its impact on health policies. The aim of this study was to assess the quality of life of patients with breast and gynecological cancer, undergoing chemotherapy.

**Methods and Findings:** This was a quantitative, descriptive and longitudinal study, conducted in the Clinical Hospital of the Triângulo Mineiro Federal University. To assess the quality of life, the Portuguese brief version of the World Health Organization Quality of Life (WHO-QOL-BREF) instrument was applied. The paired Student's t-test was used for the analysis of the means of/ the scores of the domains. The study included 14 women. The lowest means were observed in the physical domain,  $51.78 \pm 15.89$  and  $50.25 \pm 15.37$ , respectively before and after treatment. There was also a compromise of the psychological and environment domains, however, the data analyzed did not show statistical significance. The main limitation of this study is the sample size.

**Conclusion:** Quality of life presents itself as an important factor for the measurement of results in clinical studies.

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## Introduction

The diagnosis of cancer generally has a devastating effect on the life of the recipient. Fear of the mutilations and disfigurements that can

### Keywords

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result from the treatment, as well as the fear of death and the many losses in the emotional, social and material spheres almost always occur [1].

An important aspect to consider is the history of the disease throughout time and culture, with its meanings and symbology. The history of the individual with cancer is full of fear and shame, leading to an unconscious retreat to ancestral fears, filled with dread and expectations that resist the advances of science [2]. In this way, cancer is still a difficult secret to be shared, narrated and heard, even for women, who are culturally more encouraged to share, integrate and socialize experiences [1], which probably compromises their quality of life.

The technological development of oncology has resulted in new treatments with great healing potential. However, while survival has increased, benefits related to quality of life have not been achieved [3].

Recently, the evaluation of the quality of life in patients with cancer has aroused the interest of researchers. Under the influence of the change in the health paradigm of the social production of health, centered on the complex health-disease process, it is increasingly sought to unravel the perspective of acting on the course of the natural history of diseases and health problems [4, 5].

Regarding the conceptual and methodological aspects of quality of life, the review of the literature emphasizes that they should be evaluated by the individual, unlike the initial tendency in which they were evaluated by an observer. The studies carried out in the health area present two approaches, one more generic and the other related to health. Studies based on the generic concept of quality of life present evaluations of healthy people of the population, with the total exclusion of those with specific diseases. The investigations that depart from the concept related to health are associated with diseases or interventions in health [4].

The concept of quality of life, on which this study is based, is presented by the World Health Orga-

nization Quality of Life (WHOQOL) Group, which defines quality of life as "the individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" [6].

In Brazil, there has been increasing interest in the quality of life in the health field. There are countless publications that refer to data regarding the influence of external factors, diseases, temporary conditions such as surgeries and even cancer, affecting the quality of life score.

Thus, the aim of this study was to evaluate the quality of life of patients with breast and gynecological cancer, according to the WHOQOL-BREF validated instrument, in the pre- and post-chemotherapy moments.

## Methods

This was a quantitative observational study, with a descriptive character and a prospective longitudinal design. The study was carried out at the Central Chemotherapy Unit of the Clinical Hospital of the Triangulo Mineiro Federal University (CQ/HC/UFTM), in the city of Uberaba/MG.

The study included 14 women, selected through the following inclusion criteria: aged 18 years or over diagnosed with breast or gynecological cancer by the Gynecological Oncology Service of the Gynecology and Obstetrics Department and that underwent chemotherapy, in the period from December 2012 to April 2013, at CQ/HC/UFTM. All the women who started chemotherapy during the defined period of data collection were included in the study, with no sample calculation being performed, thus constituting a convenience sample.

Considering the aggressiveness of the chemotherapy treatment and that the quality of life of the women submitted to this treatment was the focus of the study, it was chosen to include all those

who performed the treatment during the development of the study, regardless of the primary onco-gynecological diagnosis and the other forms of oncological treatment that these women underwent, before or after the chemotherapy, such as surgery, radiotherapy or hormone therapy.

The information needed to develop the study was obtained using the data collection instrument proposed by the World Health Organization (WHO), the Portuguese abbreviated version of the World Health Organization Quality of Life (WHOQOL-BREF) assessment. This is a generic instrument composed of 26 questions, two being general issues of quality of life and 24 representing each of the 24 facets that comprise the physical, psychological, social relationships and environment domains [6, 7]. The questions of the instrument were answered in a private place, based on the last two weeks of life [6, 7], after the participants signed a consent form. The WHOQOL-BREF was applied at two moments, immediately before the first cycle of chemotherapy and after the third cycle. The results obtained were categorized on a Likert type scale, in which, the higher the score, the better the quality of life [8].

The data were stored in an Excel<sup>®</sup> spreadsheet and then imported into the Statistical Package for the Social Sciences (SPSS) version 20.0 statistical program. From the application of the validated WHOQOL-BREF instrument, the mean scores of the domains were analyzed using the paired Student's t-test. The level of statistical significance for all inferential procedures was 5%.

Approval of the Research Ethics Committee (CEP) of UFTM was obtained for the development of the study under authorization No. CEP/UFTM: 2304. The ethical aspects of Resolution 196/96 of the National Health Council on research involving human subjects were followed, since the study precedes the publication of Resolution 466/12.

## Results

The group of subjects (n=14) was composed mainly of women between 41 and 60 years of age (56.3%); with a fixed partner (62.5%), Catholic (62.5%), with individual monthly income of up to one minimum wage (62.5%). It is interesting to observe the prevalence in the sample of women (31.3%) with low levels of education (1 to 4 years of schooling) and with average levels of education (9 to 11 years) - 31.3%, which compose a heterogeneous group in relation to the degree of understanding of the information provided.

Regarding the clinical aspects, five (31.3%) of the women were diagnosed with breast cancer and another five (31.3%) with cervical cancer. The remaining patients were diagnosed with ovarian carcinoma, hydatidiform mole, vulvar neoplasm, and endometrial carcinoma.

The vast majority (75%) of the women had undergone some kind of surgery before starting chemotherapy; half of them had received complementary radiotherapy and 62.5% had used platinum derivatives as a chemotherapy protocol.

The results obtained from the assessment of the quality of life of the women with breast and gynecological cancer prior to beginning the proposed chemotherapy treatment and the evaluation of the domains of quality of life after the chemotherapy are presented in **Table 1**. The Cronbach's alpha value ranged from 0 to 1, with the best levels of internal consistency being those closest to 1. It should be noted that the social domain has only three items, which implies impairment in the use of Cronbach's alpha for internal validity, since the recommended for this type of analysis is the presence of at least four items [9].

In the pre-chemotherapy moment, the analysis of the physical domain of the WHOQOL-BREF presented the lowest mean score,  $51.78 \pm 15.89$ . Post-chemotherapy, the same domain continued to present the lowest mean score,  $50.25 \pm 15.37$ . It can be seen that there was a small reduction in the

**Table 1.** Evaluation of the quality of life of women with breast and gynecological cancer according to the WHOQOL-BREF domains at the pre-chemotherapy and post-chemotherapy moments (n=14). Uberaba (MG), 2013.

Domains	Minimum	Mean	Median	Maximum	Standard Deviation	Cronbach's alpha
Pre-Chemotherapy						
Physical	28.57	51.78	57.14	67.86	15.89	0.62
Psychological	37.50	66.96	66.66	87.50	16.21	0.73
Social	50.00	71.42	70.83	91.67	14.13	-
Environment	40.63	64.50	62.50	87.50	12.59	0.73
Post-Chemotherapy						
Physical	21.43	50.25	51.78	71.43	15.37	0.71
Psychological	20.83	60.41	64.58	87.50	20.65	0.84
Social	33.33	72.61	75.00	100.00	17.73	0.31
Environment	31.25	58.92	62.50	75.00	14.02	0.74
Domains	Paired Student's t			P-value		
Pre-Chemo X Post-Chemo						
Physical	0.31			0.763		
Psychological	1.88			0.083		
Social	-0.46			0.655		
Environment	2.00			0.066		

mean score between the pre-chemotherapy and post-chemotherapy moments, however, without statistical significance ( $p=0.763$ ).

The psychological domain of the WHOQOL-BREF at the pre-chemotherapy moment presented a higher mean score of  $66.96\pm 16.21$  compared to the mean score at the post-chemotherapy moment of  $60.41\pm 20.65$ , however, with no statistically significant difference ( $p=0.083$ ).

Regarding the social domain of the WHOQOL-BREF, a mean score of  $71.42\pm 14.13$  was observed at the pre-chemotherapy moment, while at the post-chemotherapy moment this score was slightly higher ( $72.61\pm 17.73$ ), however, without statistical significance ( $p=0.655$ ).

At the pre-chemotherapy moment, a mean score of  $64.50\pm 16.21$  was observed in the WHOQOL-BREF environment domain, with a reduction post-

chemotherapy to a mean score of  $58.92\pm 14.02$ , however, also without statistical significance ( $p=0.066$ ).

## Discussion

The therapeutic approach of patients with breast and gynecological cancer involves a high degree of concern regarding their survival. Thus, the assessment of the quality of life should be considered during all stages of diagnosis and treatment of the disease, since various cancer related symptoms and complications and their treatment can significantly affect the domains of quality of life involving the physical, psychological, social and environmental well-being.

Analyzing the physical domain, a study of 50 patients with gynecological cancer submitted to

chemotherapy concluded that this domain of the WHOQOL-BREF was the most compromised, with a mean score of 56, probably due to the toxicity of the chemotherapeutic drugs used in the treatment related to the cellular non-specificity. The main side effects observed were nausea, vomiting, mucositis, pain, fatigue and weakness that made it difficult for these patients to perform the activities of daily living, consequently impairing their quality of life [10].

In a study carried out in Antioquia, Colombia (2010), with 220 women with breast cancer who underwent chemotherapy, the mean score of the physical domain of the WHOQOL-BREF was 63, with this domain being the most affected in the study [11]. It should be noted that the mean score of the physical domain was higher than that found in the present study, suggesting that this difference stems from the cultural and economic differences existing between the two countries, as well as the tumor type and the consequences of the treatment. In this study the quality of life of patients was characterized as intermediate.

The ability to work, whether at home or outside, is diminished, with a high number of people taking sick leave or leaving their work during the treatment period, leading to personal dissatisfaction. Women with breast cancer experience alterations in their functional capacity, which impairs the performance of their daily activities and their social participation, leading to the impairment of the quality of life [12].

Weakness, tiredness and fatigue were cited by several authors as factors that influence the quality of life of the patients, corroborating the data found in this study [13, 14, 15].

Thus, it can be inferred that the quality of life of the patients interviewed in the present study, with respect to their physical aspects, was influenced from the moment the disease was diagnosed until the final outcome. The chemotherapy treatment explains the reduction in the mean quality of life scores of these women, who were already living

with their quality of life compromised due to the diagnosis. It is important to increase the sample size in order to increase the statistical power of the test used.

The questions related to the psychological domain deal with positive feelings; thinking and learning; self esteem; body image; negative feelings; and spirituality [9]. Women idealize and elaborate a body image surrounded by physiological, psychological and social aspects that affect the emotions, thoughts and the way of relating with other people, significantly influencing their quality of life, a fact observed in the present study.

Alopecia is described by cancer patients as the most devastating of the side effects of the chemotherapy treatment. They say that this symptom becomes frightening in that the hair is a fundamental part of their physical appearance and its loss affects the self-image and impairs their social relationships [16].

A study evaluated the self-esteem of 37 women who had undergone breast cancer surgery at least one year previously. It was observed that 54.10% of the women had high self-esteem. This differed from what has been shown in other studies, with the authors justifying the finding based on the mean age of the women (56.11 years). According to the study, self-esteem tends to increase with aging, being related to the fact that 55% of them were in a stable relationship and 20% had performed breast reconstruction [17].

Another important aspect to be considered in the psychological domain is spirituality, understood as a set of emotions and convictions of a non-material nature, referring to questions such as the significance and meaning of life. This can represent an important source of comfort and support for many people during the period of suffering, bringing them serenity to face the adversities of the disease [18]. In this sense, one study observed that the women with cancer who participated in the study mentioned, in addition to adherence to treatment

and family support, the need for other forms of coping with the disease, with religion representing an important supportive role. Faced with cancer, the women generally became more sensitive, in need of protection, and relied on their religious and spiritual beliefs [19].

The questions related to the social domain relate to personal relationships, support and sexual activity [9]. Interestingly, among the domains of the WHO-QOL-BREF in the present study, the social domain was the only one in which the mean scores showed an increase after the chemotherapy, even though small and without statistical significance, in relation to the mean scores before the women started the proposed chemotherapeutic treatment.

One study discussed the impact of breast surgery on female sexuality and found a close relationship between physical discomfort and difficulties in resuming sexual activity after breast removal surgery. It also highlighted a high susceptibility of women with breast cancer to physical and psychosocial stressors, contributing to a lowering in the quality of life of these women [20].

It is important to consider that the chemotherapeutic treatment for the cancer patient is a factor of exclusion from the social life previously experienced, since there is an increase in insecurity, considering that society determines the behavior, appearance and productivity expected. Illness and treatment can influence individual experiences and, through interpersonal relationships, patients can express and reorganize their thoughts and emotions. Patients make adaptations in their lives and seek to maintain their social relationships together with their families [16].

Regarding the environment domain, the WHO-QOL-BREF questions address physical security, the home environment, financial resources, health care, information, recreation and leisure, physical environment and transportation [9].

A study performed with 454 women with breast cancer, regarding the reasons for not attending

the health service for rehabilitation or continuity of the treatment, observed that 101 (22.2%) of them mentioned their occupation in the home as a predisposing factor, while 87 (19.2%) mentioned the difficulty in getting to the service, including the means of transportation and distance from the place [21]. Thus, it can be inferred that women, even in treatment, continue to be directly involved in the activities of the home and in family relationships, being responsible for caring for the family, which justifies the occupation and generates lack of time and family problems. In addition, the difficulty of transportation, distance and other health problems presented contribute to their lack of availability and willingness to attend the health service.

In evaluating leisure, one study highlighted that this is an important element in coping with cancer and that the women interviewed reported that, faced with the uncertainty of the future, they found, in an activity that they considered pleasurable, the opportunity to enjoy life while they were allowed to live [19]. Among women with breast cancer, leisure was highlighted as an element of great importance, with repercussion in the life, acting as a powerful therapeutic resource. For them, leisure was a way to seek the cure of the disease, because, when distracted, the mind occupies itself pleasantly, moving away from the persistent and negative thoughts about the disease and its treatment [22].

Another study highlighted worse evaluations in the quality of life of women who survived breast cancer when compared to healthy women [23]. The domains in which there were worse evaluations were the physical, psychological and environment, as well as in the general quality of life [23].

An integrative review on the quality of life of cancer patients, carried out with Latin American studies, highlighted that there are still gaps in the knowledge in this area [24]. In spite of the limitations of this study, mainly related to the number

of participants, which did not allow for a deeper statistical analysis, this study combines information, allowing a better understanding of the subject.

## Conclusion

The quality of life evaluation, before and after the chemotherapeutic treatment of women with breast and gynecological cancer, in this study, showed that the lowest means were in the physical domain, before and after the treatment. There was also a significant impairment of the psychological and environment domains, however, the data analyzed were not statistically significant. This study, therefore, presents the low number of subjects as a limitation. However, the importance of studies of this nature that identify the influence of psychological disorders on the quality of life of women with breast and gynecological cancer who undergo chemotherapy treatment can be observed.

Quality of life has been presented as an important factor for the measurement of results in clinical studies. Therefore, it is necessary to carry out evaluations at the beginning of the treatment and after the administration of the chemotherapy, in order to provide follow-up results, aiming for efficient and effective performance of the health team in improving the aspects of quality of life of the patients with cancer undergoing chemotherapy. This approach should be performed in a careful and insightful way in order to detect relevant changes in the life of each patient, taking into account the fact that the data found may affect the results and outcomes of the proposed therapies.

## Competing and Conflicting Interests

We declare that we have no conflict of interest. We declare we have full control of all primary data and we agree to allow the journal to review the data if requested.

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