

# Studying the Impact of Self-Care Training on the Life Quality of Breast Cancer Patients

## Abstract

Breast cancer is one of the most important diseases in which the side effects of chemotherapy cause disturbances in mental, physical, spiritual, and social functions. This disease has a significant effect on the life quality of patients and severely affects it. In this study, the impact of self-care training on the life quality of women with breast cancer was studied. This semi-experimental study was done on breast cancer patients who had recently undergone mastectomy and were in the first session of chemotherapy. The samples were randomly assigned to the control group and the test group. Questionnaires related to demographic characteristics and standard questionnaires for assessing the life quality of breast cancer patients were completed once in the first session and then after 4 months, for both groups. In the test group, self-care training was given for 60 minutes to the researched units and they were given training booklets. SPSS version 23 statistical software was utilized for data analysis. Based on the obtained results, there was a statistically significant difference in the test group between the average scores of the overall quality of life after and before the intervention and it was reduced ( $P < 0.05$ ). The findings of the current study reveal that the one-hour training in the first session of therapeutic chemotherapy and just giving them textbooks cannot improve the life quality in breast cancer patients. In this way, it seems that in the first session of chemotherapy, the patient has not yet experienced the complications caused by chemotherapy, or because of the fear and anxiety of chemotherapy, he does not have much motivation to learn educational materials.

**Keywords:** Breast cancer, Patients, Quality of life, Training, Self-care

## Introduction

Chronic diseases are one of the main and important concerns of today's societies.<sup>[1-3]</sup> Such diseases involve people of any age, culture, race, and social and economic class, and some of them have a significant effect on the life quality of the sufferers due to the disabilities they cause.<sup>[4,5]</sup> Cancer, like other chronic diseases, is considered a major healthcare issue.<sup>[6]</sup> Cancer disease has significant effects on the lives of affected people and their families so that its diagnosis and treatments cause changes in the path of personal life, daily activities, job, communication, and family roles of the affected person and psychologically it is accompanied by severe stress.<sup>[7-9]</sup>

Among the types of cancer, breast cancer is the most common cancer in women patients and is responsible for 32% of cancer cases in women, it is considered the main cause of death for women between the ages of 20 and 45 and the second cause of death for women of all ages.<sup>[10]</sup> The use of chemotherapy drugs, like other drugs, is associated with a

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series of side effects, which include inflammation of the oral mucosa, hair loss, weakening of the bone marrow, nausea, vomiting, anorexia, and diarrhea.<sup>[10]</sup> Such side effects intensify the emotional stress of people undergoing this treatment method disrupt their physical, social, and role functions, and leave a significant effect on the life quality of these people.<sup>[1, 11-13]</sup> Considering that cancer treatments have become more aggressive and are associated with more side effects, and on the other hand, treatment with new drugs has significantly increased the survival of patients, there is a strong need to improve the life quality of these patients. It should be evaluated from the point of view of the nurse and the patient, and we should not consider only the complications and mortality caused by the disease.<sup>[14, 15]</sup> Therefore, although treatment success is desirable for prolonging the life of patients, it is not enough to increase the survival of patients, because patients do not just want to survive but also want to live.<sup>[7, 9]</sup> In this direction, the health care services provided to people with cancer are increasingly

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moving towards the development of interventions to increase the life expectancy of cancer patients, as well as interventions to improve life quality.<sup>[1]</sup>

Regarding the life quality of cancer patients, it is clear that cancer complications and their different treatments have a significant negative impact on their life quality.<sup>[16-18]</sup> Considering these cases, healthcare providers can improve people's tolerance to treatment and quality of life by conducting detailed examinations and providing appropriate interventions. In addition, people working in the health care profession can be very helpful by providing a series of care interventions such as providing suitable environmental conditions for education and providing complementary health care services. To reduce emotional, functional, and physical complications in patients undergoing chemotherapy and improve their quality of life, different interventions have been included in the rehabilitation programs of these patients.<sup>[19, 20]</sup> Among these interventions is self-care. Providing information about treatment, diagnosis, and ways to reduce complications to patients is a means by which cancer patients can better participate in the process of decision-making and ultimately improve their life quality.<sup>[19]</sup>

Self-care is a strategy to adapt to the events and stresses of life, which promotes health and lack of dependence and includes special activities that, if implemented, will reduce the symptoms of the disease.<sup>[21]</sup> In the field of the effect of self-care training in connection with various diseases, there are various studies.<sup>[22-24]</sup> The programs implemented in each study have had significant effects on disease control. Self-care, as one of the health-related behaviors, is influenced by many cultural factors, such that it has a series of specific values and customs and can be influenced by social education.<sup>[25]</sup> Since this disease and complications caused by chemotherapy can affect the mental health of the patient and as a result the acceptance of the treatment and its continuation, as well as the different aspects of the social, physical, mental, and spiritual quality of life of the people, and the number of patients who are cared for at home. Therefore, this research was conducted to investigate the impact of self-care training on the life quality of breast cancer patients undergoing chemotherapy.

## Materials and Methods

This semi-experimental study was done on 64 women with breast cancer who had been referred for the first session of chemotherapy. In this study, the samples were chosen continuously and then randomly assigned to two control and experimental groups. Inclusion criteria included the following: patients who had recently undergone mastectomy, age 30-70 years, stage 2 or 3 cancer, first session of chemotherapy, the same type of chemotherapy, being literate, not receiving

formal training on self-care before entering the study, not having underlying diseases at the time of visit, patients not being part of the medical and paramedical groups. Patients' exclusion criteria included metastasis and unwillingness to continue participating in the study.

In the first session of chemotherapy, the information of the research units was collected using a demographic questionnaire and a standard tool for assessing the life quality of breast cancer patients according to the Beckman Research Institute and National Medical Center, for both control and test groups. This tool examines the life quality of women with breast cancer in the four dimensions of social, mental, physical, and spiritual health and includes 44 items, each item is graded on a scale of 0-10. In this way, a score of zero is given to the worst situation and a score of 10 is given to the best situation. Grading in several items in this tool is reversed compared to other items. To code in such cases, it is necessary to subtract the number determined by the research unit from 10 and use the result. The patients of the test group were individually trained for 60 minutes by question and answer and lecture method. In the end, two pamphlets and four educational booklets and their study methods were taught to the patients. These booklets have educational content about breast cancer, chemotherapy and its side effects, type of nutrition during treatment, and psychological support for people with cancer, and pamphlets also contain training on the correct way of breast examination and genetic tests in breast cancer. In education, simple language was utilized and medical terms were avoided. It should be noted that due to the non-simultaneity of patients' referrals for chemotherapy, there was no meeting or exchange of information between the studied units in the control and test groups. The patients of the test group were followed up by phone every month. In the 6th or 7th session of chemotherapy (about 4 months later), the quality of life questionnaire was completed again for both groups, and at the end, the life quality was measured in the two groups, after and before the study.

SPSS software (version 23) and t-test, chi-square, paired t-test, and Fisher's exact test were utilized for data analysis.

## Results and Discussion

In this study, a total of 64 samples (32 samples in the test group and 33 samples in the control group) were examined. A comparison of the demographic characteristics of the participants in the research did not reveal any significant difference between the two groups. The averages of the overall quality of life score and its different dimensions in the control and test groups after and before the intervention are provided in **Tables 1 and 2**.

**Table 1. Comparison of the average overall quality of life score in the test and control groups after and before the intervention.**

Before intervention	Mean ± SD	After intervention	Mean ± SD	P-value
Test Group	259.59 ± 53.58	Test Group	230.53 ± 48.34	0.000
Control Group	262.25 ± 59.78	Control Group	230.68 ± 71.43	0.002
P = 0.852		P = 0.992		

Based on the results of **Table 1**, there was no significant difference between the average score of the total quality of life in the test and control groups after the intervention with  $p=0.992$ . The quality of life decreased in both groups and did not differ much. The average score of the total quality of life in the test group after and before the intervention had a significant difference with  $p<0.001$ . A significant difference was also reported in the control group ( $p = 0.002$ ). However, in both groups, the quality of life was reduced, which was as expected in the control group and contrary to expectation in the test group. According to **Table 2**, the averages of the physical dimension in the test group after and before the intervention reveal a significant difference with  $p<0.001$ . As can be seen, the reduction rate was higher in the control group. The mean scores of the psychological dimension of quality of life in the control and test groups did not show a significant difference after the intervention ( $p = 0.781$ ). In both control

and test groups, there was a significant difference in the direction of reduction between the averages of the psychological dimension before and after the intervention. The mean scores of the social dimension in the test group after and before the intervention did not show a significant difference with  $p = 0.08$ , and this was also the case in the control group. That is, the decrease in the quality of life in the social dimension, like in other dimensions, was not to the extent to make this difference statistically significant. The average scores of the spiritual dimension in the test group before and after the intervention show that there was a slight decrease after the intervention, but it was not significant ( $p = 0.219$ ). In the control group, the mean scores of the spiritual dimension after and before the intervention did not have a significant difference, but it was slightly reduced ( $P=0.791$ ). And like the social dimension, there was no significant difference.

**Table 2. Comparison of the average scores of quality of life dimensions in the test and control groups before and after the intervention.**

	Before Intervention	Mean $\pm$ SD	After Intervention	Mean $\pm$ SD	P-value
Physical dimension score	Test Group	54.25 $\pm$ 12.36	Test Group	44.68 $\pm$ 12.2	0.000
	Control Group	57.75 $\pm$ 15.87	Control Group	45.43 $\pm$ 16.31	0.000
	P = 0.329		P = 0.836		
Psychometric score	Test Group	119.4 $\pm$ 38.34	Test Group	105.65 $\pm$ 32.98	0.032
	Control Group	117.68 $\pm$ 4.66	Control Group	102.96 $\pm$ 43.33	0.012
	P = 0.864		P = 0.781		
Social dimension	Test Group	36.52 $\pm$ 9.27	Test Group	32.28 $\pm$ 10.5	0.08
	Control Group	38.68 $\pm$ 11.02	Control Group	34.65 $\pm$ 16.87	0.102
	P = 0.4		P = 0.697		
Spiritual dimension score	Test Group	49.65 $\pm$ 11.72	Test Group	46.9 $\pm$ 9.29	0.219
	Control Group	48.12 $\pm$ 11.46	Control Group	47.62 $\pm$ 11.34	0.791
	P = 0.599		P = 0.783		

This research aimed to determine the impact of self-care training on the life quality of breast cancer patients undergoing chemotherapy. The results of the research show that there was no significant difference between the demographic characteristics of the control and test groups before the intervention, so they were the same.

According to the results of this research, there was no significant difference between the average scores of the total quality of life in the control and test groups before the intervention, and there was no significant difference after the intervention. According to the obtained results, it can be seen that the overall quality of life decreased in both groups after four months, but the decrease was more in the control group. Maybe the small effect of training in the test group is the reason for this difference. De Lorenzo *et al.*<sup>[26]</sup> investigated newly diagnosed cancer patients after receiving the first course of chemotherapy and showed that the use of lecture methods of written packages such as booklets and the use of video films increased the life quality of these patients compared to the group.

In the present study, the interval between the training and the next examination was about four months, which may have caused the training given in the first session of chemotherapy to fade in the patient's mind and reduce the effect of the training. The appearance of side effects of chemotherapy and its negative effects on patients' lives after this period is perhaps another factor, which has reduced the effect of education. In the present study, the comparison of the average scores of the life quality in the physical, mental, and social dimensions in the control and test groups did not have a significant difference after the intervention, and it indicates that the training conducted in the test group could not improve the life quality in the physical, mental and increase social.

In the current study, the mental and physical dimensions of the life quality in the test group after the intervention had a significant difference and decreased compared to before, and the same was true in the control group. However, according to the inter-group averages, the decrease in the quality of life in the physical and mental dimensions was more in the control group, which perhaps shows the small effect of education, and also the quality of life in the social and spiritual dimensions in

the test group after the intervention compared to before. It has decreased, but it is not significant and it is the same in the control group. That is the decrease in the quality of life in social and spiritual faith, as well as in physical and mental dimensions, was not to such an extent that this difference was statistically significant. The amount of reduction in the social dimension is higher in the control group, which can indicate the small effect of education in the test group.

A study conducted under the title of examining the life quality of newly diagnosed cancer patients showed that the quality of life of these patients in physical, social, economic, and psychological dimensions is favorable in our society.<sup>[27]</sup> In another study, it was shown that there is a significant difference between the average points obtained in different areas of mental health of the research units before and after the training and it has increased.<sup>[28, 29]</sup> However, the findings of the current study are not consistent with this study.

Based on the findings of this study, it is suggested that in addition to providing educational booklets, face-to-face training in the form of questions and answers should be carried out more extensively with more facilities and more suitable places for patients, and just as for conducting chemotherapy from Experienced nursing staff is used, and for the necessary training, nurses are optimally used according to a written program. It is thought that in the first session of chemotherapy, due to the patient's concern about chemotherapy, which he has never experienced, the effectiveness of education decreases. It is suggested that this training start before chemotherapy and continue continuously during the treatment so that the questions raised by the patients can be answered. However, the results obtained from the present study and its comparison with the mentioned studies show that training in the first session of chemotherapy for one hour and simply giving them educational booklets cannot improve the life quality in cancer patients.

It seems that in the first session of chemotherapy, the patient has not yet experienced the side effects of chemotherapy, or because of worry and fear of chemotherapy, he does not have much motivation to learn the educational material.

## Conclusion

Based on the obtained results, there was a statistically significant difference in the test group between the average scores of the overall life quality after and before the intervention and it was reduced. The results of the present study show that the one-hour training in the first session of therapeutic chemistry and just giving them textbooks cannot improve the life quality in breast cancer patients. In this way, it seems that in the first session of chemotherapy, the patient has not yet experienced the complications caused by chemotherapy, or because of the fear and anxiety of chemotherapy, he does not have much motivation to learn educational materials.

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## Conflict of interest

None.

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## Ethics statement

None.

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