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Exploring the Impact of Palliative Care Education on Enhancing Quality of Life for Women with Breast Cancer

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Abstract

Due to the widespread nature of breast cancer and its significant impact on the quality of life for those affected, this study aimed to evaluate how palliative care education affects the quality of life of women with breast cancer. In this clinical trial, 46 breast cancer patients were randomly assigned to either an intervention group or a control group. While the control group received standard care, the intervention group participated in 4 weeks of specialized palliative care training. The Missoula quality of life questionnaire was administered to both groups before, immediately after, and one month following the intervention. Data analysis was performed using independent t-tests, paired t-tests, and chi-square tests through SPSS version 23 software. The results showed a significant improvement in the quality of life scores of the intervention group before and after the training ($P = 0.003$), while no significant change was observed in the control group ($P = 0.67$). In addition, there was a significant difference in the quality of life scores between the two groups both immediately and one month after the intervention ($P < 0.0001$). These findings suggest that palliative care education can significantly improve the quality of life for breast cancer patients, advocating for the widespread integration of such care through patient-centered training.

Keywords: Palliative care, Quality of life, Breast cancer, Education

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Introduction

Breast cancer is the most prevalent and emotionally impactful cancer among women [1-3]. Its incidence is rising globally, particularly in developing countries [4, 5]. The average age of diagnosis is significantly younger in developing countries, often over a decade earlier than in developed nations [6, 7]. A younger onset is especially

significant as it affects women who still have many years ahead for social and personal activities [8]. Beyond its potential threat to life, breast cancer also disrupts patients' social, psychological, physical, and economic well-being, significantly affecting their overall quality of life [9].

Quality of life has become a crucial indicator of care outcomes for cancer patients [10]. It is a multidimensional concept that assesses physical, psychological, and social aspects of well-being, along with the effects of diagnosis, treatment, and disease progression on breast cancer patients [11]. The World Health Organization (WHO) promotes palliative care as a way to enhance the quality of life for patients with incurable diseases and their families. This care begins at the time of diagnosis and continues throughout the illness [12]. The aim is to alleviate suffering by addressing pain, psychosocial challenges, and physical and spiritual issues [13]. Health systems worldwide are increasingly dealing with chronic illnesses, but face shortages in specialized care resources and staff [14], making palliative care even more vital. It not only helps to reduce healthcare costs but also shortens hospital stays, minimizes complications, and prevents readmissions [15-17]. However, some countries still lack structured palliative care programs, and patients often struggle to access these services, leaving them to seek out care on their own [18]. Often, these services are delayed or inadequate [19].

Research indicates that palliative care is available in only a few isolated centers, leaving many patients without access to this type of care [20]. Family members often bear the responsibility of providing care for these patients. Although hospitals may admit these patients, the availability of specialized services is limited [21].

In recent years, there has been increasing attention to palliative care, with more initiatives and programs focusing on cancer patients. However, the development and progress of these programs require collective efforts and widespread support [20]. Various studies have explored self-care training for breast cancer patients, with mixed results [22-25]. However, no study has specifically examined the role of palliative care education in improving the quality of life for breast cancer patients. Therefore, this research was undertaken to assess how palliative care education can enhance the quality of life for women with breast cancer.

Materials and Methods

This randomized controlled clinical trial was conducted on 46 breast cancer patients, who were selected using convenience sampling from those eligible for participation. The sample size was calculated based on correlation coefficients from previous research [26], considering a 95% confidence level and an 80% power. After obtaining informed consent, participants were randomly assigned to two groups of 23 using a random number table.

The inclusion criteria for the study were: being over 18 years of age, having a confirmed diagnosis of breast cancer, no history of mental illness, voluntary participation, no prior involvement in other related educational programs, no recent accidents, no drug use, no other significant physical illnesses besides breast cancer, and no sensory disorders (vision or hearing problems) that would interfere with learning. Exclusion criteria included a lack of willingness to continue the study or any accidents occurring during the study that could affect the participants' quality of life.

Data were collected at three time points: at the beginning of the study, after the intervention (four weeks later), and one month after the intervention. The study tools included a researcher-developed demographic and clinical characteristics checklist and the Missoula quality of life questionnaire. This questionnaire, frequently used in research evaluating the quality of life in patients with advanced diseases, has shown reliability with a coefficient of 0.83 [27]. Factor analysis from Zaki's (2008) study indicated a KMO ratio of 0.696 and Bartlett's test coefficient of 113.48. The Cronbach's alpha for reliability, based on 25 items and 200 subjects, was 0.744 [28]. The Missoula quality of life questionnaire contains 25 items on a 5-point Likert scale, along with two self-report questions regarding quality of life and symptoms. The final quality of life score for each participant was determined from their responses to the questionnaire.

$$\text{Total score} = 15 + (10/\text{Total weighted scores of each dimension}) \quad (1)$$

Data analysis and intervention protocol

The quality of life raw data obtained from the Missoula quality of life questionnaire were organized and analyzed using the Missoula-Vita 2 quality of life analysis module, which operates within a Microsoft Excel spreadsheet. This tool, provided by the team that created the

questionnaire, automatically calculates quality-of-life scores [29].

The intervention group received both the educational protocol and routine care, while the control group only received routine care. The educational program consisted of four weeks of structured, one-hour training sessions, held twice a week in the clinic during the patients' visits. The content for the 8 sessions was designed after reviewing the needs of these patients, consulting relevant experts, and referring to palliative care protocols. The topics covered included:

1. Strategies for accepting breast cancer, understanding treatments and complications, recognizing patients' rights to receive information, and participating in treatment decisions.
2. Introduction to palliative care, the patient's role in this care, maximizing care benefits, and understanding support networks and systems.
3. Medicinal and non-medicinal strategies for managing pain and fatigue.
4. Approaches for managing anxiety, stress, depression, and sleep disorders, both medicinal and non-medicinal.
5. Nutritional care and maintaining a healthy lifestyle for breast cancer patients.
6. Solutions for managing sexual disorders, both medicinal and non-medicinal.
7. Body image, factors influencing body image, self-acceptance, and managing relationships.
8. Strategies for spiritual and psychological well-being.

Once the quality of life scores for all participants were calculated using the Missoula-Vita analysis module, the data were entered into SPSS version 23 for statistical analysis. Chi-square tests, independent t-tests, and repeated measures analysis of variance were used to analyze the data.

Results and Discussion

All 46 patients completed the study, attending every educational session. Demographic analysis showed no statistically significant differences between the two groups in terms of age (P = 0.96), marital status (P = 0.85), occupation (P = 0.46), education (P = 0.7), place of residence (P = 0.53), living status (P = 0.38), number of children (P = 0.83), number of treatment sessions (P = 0.94), treatment duration (P = 0.88), type of treatment (P = 0.34), source of information (P = 0.88), support network (P = 0.89), place of infection (P = 0.35), disease stage (P = 0.18), or whether the disease was new or recurrent (P = 0.44). These results indicate that the two groups were similar in these respects.

The majority of participants were between 36 and 45 years old (mean age = 42.98 ± 1.572 years), with 74% married. Most patients had primary breast cancer and had been undergoing treatment for 13 to 18 months, with chemotherapy being the most common treatment. The most important source of information was nurses, and family members provided the majority of support. Left breast involvement was the most common.

Regarding quality of life scores, the results indicated that the intervention group showed a statistically significant improvement in quality of life from pre-intervention to post-intervention (P=0.0001). Moreover, significant differences were also observed between pre-intervention and follow-up scores, as well as between post-intervention and follow-up scores (P= 0.0001). However, for the control group, there were no significant differences in quality of life scores between pre-intervention and post-intervention (P = 0.05) or between follow-up and post-intervention (P = 0.05) **(Table 1)**.

Table 1. Comparison of the average quality of life scores of breast cancer patients before, immediately after, and one month after training in the test and control groups

Group	Pre-test (mean ± SD)	Post-test (mean ± SD)	Paired t-test (T, df, P)
Test group	14.71 ± 0.91	15.62 ± 1.02	T = -10.95, df = 22, P = 0.001
			Pre-test to follow-up: T = -14.12, df = 22, P = 0.001
			Post-test to follow-up: T = -8.11, df = 22, P = 0.001
Control group	13.52 ± 0.63	13.59 ± 0.67	T = -2.04, df = 22, P = 0.05
			Pre-test to follow-up: T = -6.04, df = 22, P = 0.001
			Post-test to follow-up: T = -1.78, df = 22, P = 0.08

The results of the study regarding the comparison of life quality scores between the test and control groups indicate no statistically significant difference in the average pre-test scores before the intervention (P = 0.07). However, after the intervention, there was a statistically significant difference in life quality scores between the two groups (P = 0.0001). Specifically, the test group showed an improvement in life quality scores compared to the control group in both the post-test and follow-up periods. Furthermore, a statistically significant difference was also observed between the two groups in the follow-up period, with the test group continuing to maintain better quality of life scores (P = 0.0001) **(Table 2)**.

Table 2. Comparison of the average quality of life scores of breast cancer patients, immediately before and one month after the training in the test group with the control group

Group	Pre-test (mean ± SD)	Post-test (mean ± SD)	Follow-up (mean ± SD)	T-test (T, df, P)
Test group	14.52 ± 0.63	14.59 ± 0.67	14.67 ± 0.58	Pre-test to post-test: T = 0.07, df = 44, P = 0.80
Control group	14.71 ± 0.91	15.62 ± 1.02	16.22 ± 0.92	Pre-test to post-test: T = 4.02, df = 44, P = 0.001
				Pre-test to follow-up: T = 6.76, df = 44, P = 0.001

This randomized controlled clinical trial was conducted to investigate the impact of palliative care education on breast cancer patient's quality of life. This research seeks to find a solution for the vacuum of not providing palliative care in a centralized and comprehensive manner and whether teaching this care to the patient by emphasizing the parts in which they have a key role can improve the life quality of cancer patients. The presence of all 46 participants in all training sessions and their cooperation to continue the study highlights the significant need these patients have for such training.

The findings indicated that the family was the primary source of support for patients, with friends and neighbors following closely behind. This is consistent with other studies [30, 31], highlighting the lack of social support and the gap in palliative care. One part of this research's educational intervention aimed to introduce available support systems, including peer groups and relevant non-governmental organizations (NGOs), to address this gap. The results of this study show that palliative care training can positively affect the quality of life for breast cancer patients. While some studies report mixed results on the impact of palliative care on cancer patients' quality of life, these discrepancies can be attributed to factors such as the duration of illness, the availability and quality of supportive services, and the variety of palliative care provided. For instance, Mirzaei *et al.* [32] found that palliative and supportive services had little effect on improving the overall quality of life for breast cancer patients, though they did improve some specific aspects. This contrasts with the present study's findings, possibly due to differences in the factors mentioned. Similarly, Prigerson *et al.* [33] observed that palliative care improved the quality of life only for patients with good performance status, while those with moderate to poor performance did not see improvements.

In contrast, Molenaar *et al.* [34] confirmed that palliative care services significantly improved the quality of life and overall health of cancer patients, aligning with this study's findings. Shahsavari *et al.* [35] also reported that patient education by nurses enhanced breast cancer patients' quality of life, which supports the present study's conclusions. On the other hand, the research by Barandeh *et al.* [36] found no significant difference between the test and control groups in overall quality of life scores before or after the intervention, a result that contrasts with the current study. Variations in data collection methods, the timing and duration of the intervention, and the content of educational materials might explain these differences. Additionally, the educational content in the current study was broader, not limited to self-care as in Barandeh *et al.*'s research [36]. Kovačič and Kovačič [37], in their investigation of the short- and long-term effects of relaxation training and yoga on mental distress in breast cancer patients, found that relaxation techniques based on yoga principles were effective for mental distress. In this study, relaxation techniques were part of a broader palliative care program, and the results showed that such training significantly improved patients' quality of life. This finding is consistent with studies by Brumley *et al.* [38] and Moadel *et al.* [39].

Conclusion

The primary responsibility for caring for terminally ill patients, such as those with cancer, lies with family members. While hospitals provide some services for these patients, specialized palliative care services are limited. Most patients lack access to comprehensive palliative care. Thus, exploring alternatives to fill this care gap, until adequate services are implemented, can be beneficial. The educational program conducted in this study, based on available resources, proved effective in improving the quality of life for breast cancer patients.

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