



# Comparing the quality of life of women suffering from breast cancer receiving palliative care and ordinary care

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## Abstract

**Introduction:** Breast cancer is the most prevalent cancer and leading cause of women's mortality due to malignancy. Treatment increases the survival however it is associated with poor quality of life and bringing the patients toward palliative care.

**Objectives:** This study was conducted to compare the quality of life in patients with breast cancer receiving palliative care and ordinary care.

**Patients and Methods:** This descriptive-analytical study was carried out in Tehran hospitals (February to August 2017). The sample consisted of 220 breast cancer women who had completed the therapy four weeks prior to the study. The European Organization for Research and Treatment of Cancer quality of life Questionnaire (EORTC QLQ-C30), its supplementary breast cancer questionnaire (QLQ-BR23) and International Physical Activity Questionnaire (IPAQ) were applied to assess the quality of life of patients who received palliative care (n=110) and ordinary care (n=110). Descriptive and inferential statistics (t test and Mann-Whitney U test) were applied to analyze the data through SPSS 21.

**Results:** The palliative care group demonstrated higher quality of life compared to the ordinary care group. Scores in functioning and global health were higher in the palliative care group than the ordinary care group. The palliative care group also had higher scores in sexual functioning, body image, future perspective, physical activity and lower scores in symptom scales, arm symptoms and hair loss than the ordinary care group ( $P < 0.001$ ).

**Conclusion:** Palliative care provides more desired quality of life than ordinary care in breast cancer women and can be effective to improve the quality of life in these patients.

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## Introduction

Breast cancer is the most frequent cancer of women throughout the world and in countries of the Middle East, regarded as one-third of total cancers and 24% of total cancer deaths. Breast cancer is predicted to increase worldwide by 46.5% by 2040 (1). The undeniable effects of breast cancer on women's quality of life have made this disease as one of the main problems in women's wellness (2). Breast cancer patients encounter many cancers related difficulties in their lives. Treatment increases the survival of patients and bringing them into palliative care while their serious illness requires persistent management too. Palliative care is a series of measures taken to improve quality of life for patients and their families to solve problems in life-threatening

## Key point

In a study on 220 breast cancer women who had completed the therapy four weeks prior to the study, we found the palliative care could promote the quality of life compared to ordinary care in patients with breast cancer.

diseases through the facilitation of early diagnosis and the full assessment and help in functional, social, emotional and spiritual requirements (3). Patients may be treated in parallel with oncologists or in more complex cases need multi-professional palliative care too (4).

Palliative care uses ethical principles, shared decision-making and care planning to



identify patients' priorities and goals of the advanced care. A team approach is used and various health and social workers provide services in hospitals, health-care setting and patients' homes. The main practices of palliative care include identify, evaluate, provide support and apply solution measures for physical, psychological and emotional care needs of the patients and also manage the care planning (5). Given the need to improve the health and quality of life of breast cancer patients and their families, palliative care has gained the increasing importance.

### Objectives

This study was organized to contrast the quality of life in breast cancer women who received palliative care and women who received ordinary care in selected academic hospitals of Tehran.

### Patients and Methods

#### Protocol

This descriptive-analytical study was carried out on 220 women with breast cancer who referred to selected academic hospitals of Tehran through convenient sampling method (February to August 2017). The participants were classified into patients who attended hospitals with palliative care services (n=110) and patients attended hospitals without palliative care services (n=110). Participants were selected from university hospitals to prevent selection bias. After obtaining consent forms, the participants with inclusion criteria were included in the study. Research inclusion criteria were lack of diseases, effective on daily activities, four weeks after breast cancer therapy and lack of diagnosed psychological disorders. Exclusion criterion was inability in responding the questions due to physical status. A structured questionnaire consisting of demographic and obstetric information was applied and data were collected by interview. Socio-demographic data (includes age, education, marital situation, occupation and economic status) and obstetric information (gravidity, parity, breastfeeding, menopausal status and hormone consuming) were gathered through a questionnaire. The quality of life of participants was assessed by using the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ C30, version 3.0). It includes several multi-item scales; functional scales (physical, role, cognitive, emotional and social), symptom scales (fatigue, pain, nausea and vomiting), single item scales (dyspnea, loss of appetite, insomnia, constipation, diarrhea, and financial impact of the disease) and a global health scale. The four-point Likert scale (never; 1, little; 2, intermediate; 3 and high; 4) was used for the functional scales and symptoms scales. Scores for these questions are transformed linearly to range between 0 and 100. A high score for the functional scale represents healthy level of functioning, a high score for the global health scale represents a high quality of life, however high score for symptom scales and single item

scales represents the high level of problems (6).

The EORTC QLQ-BR23 is a 23-sector breast cancer-specific questionnaire to assess the quality of life in breast cancer patients. It is composed of functional scales (includes body image and sexual functioning) and symptom scales (consist of arm symptoms, breast symptoms, and physical complications). The other items evaluate sexual pleasure and upset by hair loss. The score for each field ranges between 0 to 100. High scores indicate better acting in functional domain and global health and also show the worst complications in symptom domain. In our study, the reliability of questionnaire was confirmed by Cronbach alpha of 0.89 in function scale and 0.80 in symptom scale.

The physical activity of patients was assessed using IPAQ which shows the physical activity intensity based on the energy consumption per minute per week (7).

#### Ethical issues

The research followed the tenets of the Declaration of Helsinki and its later amendments. This study approved by ethic committee of Shahid Beheshti University of Medical Sciences (#IR. SBMU.PHNM.1396.7.8). This study is a dissertation of MSc thesis of Seyedeh Maryam Khalili at this university.

#### Statistical analysis

Data were analyzed by SPSS-21. The level of statistical significance for the scales was determined as 0.05. Descriptive statistics were used to present and describe the data and calculate the mean and standard deviation of quality of life scores in both groups and inferential statistics were used to compare the data by independent samples *t* test or Mann-Whitney U test.

#### Results

Most participants in both palliative and the ordinary care group were at the age range of 42-53 years, married (70% and 75.5%), housewives (69.1% and 70%), elementary education (36.4% and 32.7%), Fars ethnicity (54.5% and 59.1%), modest income (50.9% and 51.8%), and sponsorship by husband (73.5% and 75.5%) and had also health insurance (95.5% and 95.5%). Table 1 provides some obstetric characteristics of the study participants. In the palliative care group, mean of gravidity was 3-4 and it was 1-2 in the ordinary care group. The majority of participants in both groups had no history of smoking (97% and 88% respectively) and hormone therapy (96% and 97% respectively).

Regarding the breast cancer screening methods, most women in both palliative and ordinary care group had not conducted the breast self-examination (93% and 93% respectively), had not performed mammography (86% and 84.5%) and had not performed the breast sonography (84% and 80%), respectively. There was no familial history of breast cancer in their close relatives (94% and 91%). The

**Table 1.** Comparing some obstetric characteristics of research samples by group

Variable	Palliative care group	Ordinary care group	P value
	Mean $\pm$ SD	Mean $\pm$ SD	
Menstrual age (year)	12.64 $\pm$ 1.26	12.46 $\pm$ 1.17	0.270
Age at first pregnancy (year)	20.98 $\pm$ 6.38	19.01 $\pm$ 7.54	0.051
Menopausal age (year)	47.54 $\pm$ 3.46	48.04 $\pm$ 5.94	0.608
Duration of menopause (month)	90 $\pm$ 70.96	156.54 $\pm$ 114.15	0.001
Duration of using contraceptives (month)	51.20 $\pm$ 37.75	44.36 $\pm$ 26.02	0.274
Breastfeeding duration (month)	20.02 $\pm$ 7.13	20.88 $\pm$ 5.02	0.375
Cancer duration (month)	29.24 $\pm$ 34.96	33.31 $\pm$ 37.14	0.403

distribution of patients' quality of life with breast cancer is presented in [Table 2](#).

Findings showed that women in the palliative group had higher scores in functioning and global health; however, they had lower scores in symptoms compared with the ordinary care group ( $P < 0.001$ ). [Table 3](#) indicates quality of life in breast cancer patients in both groups.

Results showed that the palliative care group had higher scores in body image, sexual functioning and future perspective and lower scores in side-effects, arm symptoms and hair loss than the ordinary care group ( $P < 0.001$ ). The scores of breast symptoms (pain, swelling and sensitivity) were higher in the palliative care group than the ordinary care group which indicates more breast symptoms in the palliative care group than the ordinary care group ( $P < 0.001$ ). The results showed that women in the palliative care group were significantly more active than counterparts who were in the ordinary care group ( $P < 0.001$ ).

## Discussion

The results obtained showed that quality of life in breast cancer patients who received palliative care is significantly

better than patients who received ordinary care. Results of this study are consistent with studies in which the quality of life of cancer patients who received palliative care had improved despite the socioeconomic differences between Asian and European countries (8-10). Functioning is one of the most important dimensions of quality of life which is influenced by cancer and it can be improved by palliative care (11).

In the present study, palliative care had the highest effect on different dimensions of quality of life, especially functioning, which is consistent with the study by Damodar et al (12). Results of our research showed the positive effects of palliative care on all dimensions of quality of life in women with breast cancer who received palliative care compared with ordinary care. This finding is consistent with the study by Tai et al, except in breast symptoms (pain, swelling and sensitivity). The intensity of these symptoms in the palliative care group can be due to more attention to breast changes and accurate care by palliative team (13).

In our study, gastrointestinal complications (nausea, vomiting, low-appetite, constipation, diarrhea and dry mouth) were improved in the palliative care group

**Table 2.** Mean and standard deviation of quality of life dimension by group

Quality of life		Palliative care	Ordinary care	P value
		Mean $\pm$ SD	Mean $\pm$ SD	
Functioning scales	Physical function	82.55 $\pm$ 16.91	68.12 $\pm$ 19.83	0.001
	Role function	83.63 $\pm$ 18.19	69.84 $\pm$ 18.13	0.001
	Emotional function	79.89 $\pm$ 17.83	61.96 $\pm$ 23.09	0.001
	Cognitive function	97.09 $\pm$ 12.27	90.36 $\pm$ 19.21	0.001
	Social function	89.69 $\pm$ 18.45	86.21 $\pm$ 17.48	0.001
	Global health/quality of life	83.88 $\pm$ 12.65	69.09 $\pm$ 17.92	0.001
Symptoms scales	Fatigue	21.41 $\pm$ 17.33	44.34 $\pm$ 19.82	0.001
	Pain	16.81 $\pm$ 17.84	34.24 $\pm$ 22.21	0.001
	Nausea/vomiting	2.87 $\pm$ 9.80	6.72 $\pm$ 13.63	0.001
	Dyspnea	6.06 $\pm$ 12.91	10.00 $\pm$ 17.22	0.056
	Diarrhea	3.33 $\pm$ 11.00	7.64 $\pm$ 19.04	0.041
	Constipation	5.50 $\pm$ 13.23	12.42 $\pm$ 25.08	0.001
	Insomnia	14.24 $\pm$ 19.39	31.51 $\pm$ 32.19	0.001
	Appetite loss	8.48 $\pm$ 16.55	19.39 $\pm$ 25.69	0.001
	Financial impact	36.66 $\pm$ 23.87	52.72 $\pm$ 23.19	0.001
	All symptoms & side effects	14.90 $\pm$ 14.05	28.18 $\pm$ 14.07	0.001
Global health	Global health	80.45 $\pm$ 46.08	64.09 $\pm$ 12.35	0.001

**Table 3.** Mean and standard deviation of quality of life in women with breast cancer by group

Variable	Palliative care	Ordinary care	P value	
	Mean ± SD	Mean ± SD		
Quality of life dimensions	Body image	14.30 ± 2.03	13.10 ± 2.69	0.001*
	Sexual functioning	6.23 ± 2.04	4.78 ± 1.66	0.001*
	Side-effects	11.51 ± 2.30	14.31 ± 2.68	0.001*
	Arm symptoms	4.20 ± 1.52	4.94 ± 1.49	0.001*
	Breast symptoms	9.40 ± 1.12	6.20 ± 1.89	0.001*
	Future perspective	88.70	132.30	0.001**
	Hair loss	115.38	105.62	0.001**

compared to the ordinary care group that was consistent with the study conducted by Kim et al who indicated the improvement of gastrointestinal difficulties in advanced cervix cancer patients after receiving palliative care (14). The results of our research indicated the alleviation of fatigue, boredom, and insomnia which is consistent with the study by Steel et al, indicating the effect of palliative cares on reducing fatigue, depression, pain and improving the quality of life (15). Pain is the common and annoying symptom in all cancer patients which not only reduces the patients' quality of life but also increases the healthcare services and costs. Pain caused by cancer is not only a sensory-physical pain, since it has emotional, cognitive, behavioral and cultural dimensions (16).

In our study, the palliative care group reported lower pain due to the increase in social supports, and an increase in family support regarding the effective role of family in Iranian culture, and also training family to provide emotional help for patient and supportive services provided by the care team. These results are consistent with the study by Luckett et al (17). Hair loss in breast cancer women is temporary but is an undesired condition. In this research, the palliative care group was prepared to adapt themselves with hair loss while hair loss concern was lower in the palliative care group than the ordinary care group. Kang et al reported that knowledge of chemotherapy-induced alopecia, should lead to optimized pre-therapy counseling, anticipatory coping techniques and potential therapeutic strategies for this sequel of treatment (18). In this study, palliative care decreased the costs of caring services in the palliative care group compared to the ordinary care group. The results of the study by Isenberg et al also showed the cost-effectiveness of palliative cares compared to the ordinary care group (19). Considering that the participants in this study had average income, social donations reduced the financial burden. To do this, some low-income patients received financial support to supply medicines and health services. The results of this research are consistent with the results of the study by Kim et al. In their study, providing social support for cancer patients had significant effects on reducing the economic burden caused by disease and improving the patients' quality of life (20).

Proper physical activity plays an important role in

preserving and promoting the quality of life in breast cancer women (21). In this study, patients receiving palliative care who were in regular physiotherapy sessions had more physical activity than the ordinary care group. This is consistent with the study by Jensen et al (22). Results of this research showed that quality of life in patients receiving palliative care was better than the ordinary care group.

In the study carried out by Maree et al, palliative care in cancer patients was not associated with positive results (23). The contradiction of these results with the present study can be explained by non-controlling the confounding variables and not comparing patients receiving palliative care with other counterparts. On the other hand, sampling was conducted immediately after treatment, when the symptoms were serious (24). The diversity of content and implementation of palliative care services could be another reason for these results. One of the research strengths is the comparison between receiving the palliative care group and not receiving the palliative care group and also the large sample size in this study. Several international standard and specific questionnaires with high validity and reliability were used in this research.

Sampling was not performed immediately after the end of treatment procedures and receiving care services. As the quality of life is a subjective concept, patients may be influenced by the psychological condition of the hospital interviews that is a study limitation. Our study was conducted in Tehran's academic referral hospitals, hence the results can be generalized to the population of women with breast cancer. Breast cancer women refer to these hospitals from all over the country. According to the results of this study, palliative care has been effective in improving the quality of life in breast cancer women. Therefore, it is recommended that palliative care can be trained in academic and educational hospitals and can be applied in all hospitals of Iran. There is a need of an interventional study to better consider the effect of palliative care packages. Accordingly, the studies with longer follow up on the effect of palliative care in other cancers among Iranian women suggests.

## Conclusion

Palliative care provides more desired quality of life

compared to ordinary care for women with breast cancer and can be used as an effective, accessible and feasible way along with other medical methods to improve the quality of life in these patients.

### Limitations of the study

As the quality of life is a subjective concept, patients may be influenced by the psychological condition of the hospital during the interview.

### Authors' contribution

SMK and PJA contributed to literature search, study design, data collection, data analysis, data interpretation and writing. ARH participated in the literature search and data collection. MN contributed to study design and data analysis. NK and MA participated in study design and data interpretation. All authors read and signed the final manuscript.

### Conflicts of interest

The authors report no conflict of interests.

### Ethical considerations

Ethical issues including plagiarism and double publication have been completely observed by the authors.

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