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Evaluation of Quality of Life and Symptoms of Menopause in Women With and Without Breast Cancer

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Abstract

Background: Breast cancer is one of the most common cancers in women.
Objective: This study was performed to determine the symptoms of menopause and quality of life in women with and without breast cancer.
Methods: This descriptive-analytical and cross-sectional study was performed in hospitals of Babol, Mazandaran province, Iran, in two groups of women with and without breast cancer. The study population included all women with menopausal symptoms who were divided into two groups containing 100 women apiece. A checklist containing menopausal symptoms was collected from these two groups and the standard questionnaire EORTC-QLQ-C30 was utilized to assess the quality of life in the case group and the standard questionnaire SF-36 was used in the control case. Data were analyzed by SPSS software.
Results: Depression and insomnia were significantly higher in the case group and control group, respectively ($P<0.05$), but other symptoms of menopause were not significantly different in the two groups ($P>0.05$). In the case group, the overall quality of lifewas assessed as good in 36.3% of patients. Also, the quality of life in the control group had the lowest score relevant to the item Neshat with an average of 55.6 and the highest score related to the item of social performance with an average of 73.25.
Conclusion: According to the results, the symptoms of menopause in women with breast cancer were not much different from women without breast cancer. Meanwhile, the quality of life of women with a history of cancer was good.
Keywords: Quality of Life, Menopause, Breast Neoplasms, Women

1. Background

Quality of life is the degree to which individuals feel about their abilities regarding physical, emotional, and social functions. For more than a decade, the study of quality of life has been an important issue in health care, especially in the study of chronic diseases.[1] In recent years, the study of quality of life in cancer patients has become particularly important. Cancer in all cases affects the quality of life of patients to varying degrees.[2]

At present, cancer is one of the most important and major health issues in Iran and around the world.[3] Among these, breast cancer is the most common type of cancer in women and also the main cause of cancer death among women around the world[4] and 12.6% of all cancers in Iran.[5]

The Cancer Research Center of Shahid Beheshti University of Medical Sciences, Tehran, Iran in 2013 reported that about 60 000 people in Iran have breast cancer and about 10 000 new cases are added to the number of breast cancer patients in Iran every year. According to experts, Iran has the highest rate of breast cancer in the world; meanwhile, the age of breast cancer in Iran is 5 to 10 years lower than the global average.[6]

Many factors such as geography, family history, menstrual status, pregnancy, breast proliferative lesions, and radiation history have been suggested as risk factors for breast cancer. One of the factors that has been proposed in the prevention and treatment of breast cancer is the status of hormones and hormone receptors.[7] The reduction in cancer mortality and the increase in the survival rate of patients worldwide is due to screening, early diagnosis, scientific and regular treatments, which have made the highest progress in the last 20 years.[8,9]

Depending on the stage of cancer and the patient's medical history, surgery, chemotherapy, radiation therapy, and hormone therapy may be required to treat cancer, which are the most common treatments for many side effects,[10]

but for most of these treatments, there are many side effects which significantly reduce the quality of life of these patients. Major issues and problems that typically affect the quality of life of cancer patients include psychological and emotional effects of the disease, diagnostic and therapeutic measures, stress, pain, depression, the effects of the disease on family relationships, marital relationships and social relationships are economic issues caused by disease, nutritional problems and complications of treatment, thus in recent years the study of quality of life has been considered as an important issue in health care, especially in studies related to breast cancer.[11,12]

Studies have been performed on women with breast cancer in different communities in order to identify the severity and extent of menopausal symptoms and prescribe complementary therapies as well as the age of diagnosis. Quality of life in women with breast cancer is affected by time, and years after the disease, the quality of life in these women is comparable to healthy women. By examining the epidemiological forms of breast cancer, the diagnosis may coincide with the onset of menopausal symptoms. Some women may need specific anti-cancer therapies and specialized counseling about menopause and its consequences.[13]

Few studies have been performed to evaluate menopausal symptoms in women with breast cancer. Interest in quality of life has increased among patients with breast cancer, and suggestions are being made to evaluate the quality of life in the clinical treatment of cancer. The study of quality of life and menopausal symptoms in women with breast cancer has been conducted in developed countries, where economic and cultural factors differ from developing countries.[14]

2. Objective

Whereas cultural and racial differences affect menopausal symptoms and quality of life,[13] this study aimed to evaluate the frequency of menopausal symptoms and quality of life in healthy women as well as women with breast cancer who have not used tamoxifen and hormone therapy.

3. Methods

The present study is a descriptive-analytical and cross-sectional study that was conducted as a case-control study in hospitals of Babol, Mazandaran province, Iran in 2010-2011. The study population included all women referred to hospitals in Babol with menopausal symptoms. Using the random sampling method, 200 women in two groups of 100 people, including women with breast cancer (case) and women without breast cancer (control) were selected as the samples of this study.

Inclusion criteria in the case group were women 40 to 65 years old with a history of breast cancer and exclusion criteria were the use of hormone therapy or tamoxifen for at least the past 6 months and a history of cancer in other parts of the body except for the breast. Also, the inclusion criteria in the control group were 40 to 65 years old and the exclusion criteria were the history of any cancer.

In this study, a checklist was completed for all women, including menarche age, body mass index, smoking (current use or smoking cessation in less than 5 years), and menopausal age (at least 12 months of amenorrhea) to compare the two groups. Menopausal symptoms experienced by women four weeks prior to the study were also recorded in a checklist; symptoms included hot flashes, sweating, palpitations, dizziness, anxiety, headache, depression, insomnia, dyspareunia, and vaginal dryness.

EORTC-QLQ-C30 standard questionnaire version 3 was used to measure the quality of life in the control group.[15] This questionnaire consists of 9 sections and 30 questions. The first part is related to the quality of life, five parts are related to functional status (physical, role, emotional, cognitive, and social), three parts are related to signs and symptoms (fatigue, pain, nausea, and vomiting) and six separate parts (shortness of breath, sleep disorder, loss of appetite, constipation, diarrhea, and economic effects). The two questions related to the quality of life were rated as 1 (poor) to 7 (excellent) and the rest of the questions were rated as not at all (1), low (2), high (3), and very high (4). In general, the score of each section was calculated from zero to one hundred. Women with a score of less than 33.3% had dysfunction and more or equal to 66.7% had a good performance. For signs and symptoms, women with a score of less than 33.3% had a good condition, and more or equal to 66.7% had a problem. In the case of functional status, a higher score indicated better performance, while in the case of symptoms, a higher score indicated a worse status.

The standard SF-36 questionnaire was used to measure the quality of life of the control group.[16] This questionnaire consists of 36 questions in 8 subscales that measure 4 constructs of physical health and 4 constructs of mental health. Each subscale consists of 2 to 4 constructs of physical health, physical pain, physical role, general understanding of general health, vitality, social activity, emotional role, and mental health. Also, by merging the subscales, two general subscales of physical health and mental health are obtained. To score this questionnaire, the Likert scale from zero to 100 was used.

Data were analyzed using SPSS software version 18. Chi-square test was used to determine the relationship between qualitative variables and t-test test was used for quantitative variables. Significance level in all tests was considered 0.05.

4. Results

The results of this study showed that the mean and standard deviation in the case group was 52.26 ± 10.04 and in the control group was 55.73 ± 4.67 which were not statistically significant ($P > 0.05$). The two groups were evaluated for menarche age, menopausal age, and some anthropometric

Table 1. Comparison of Demographic Characteristics in Case and Control Groups

Variable	Case	Control	*P* value
	Mean ± SD	Mean ± SD	
Age (y)	52.26 ± 10.04	55.73 ± 4.67	0.068
Menarche Age (y)	12.47 ± 0.97	12.79 ± 2.41	0.347
Menopausal Age (y)	46.97 ± 6.99	46.10 ± 11.13	0.593
Weight (kg)	71.44 ± 12.08	71.92 ± 12.46	0.814
Height (cm)	159.75 ± 5.47	159.24 ± 6.61	0.628
BMI (kg/m2)	27.45 ± 3.67	28.44 ± 4.82	0.179

indices, which did not show a statistically significant difference ($P > 0.05$) (Table 1). The study of education level showed that the rate of illiteracy and primary education was high in both groups.

Two groups of patients were evaluated for menopausal symptoms that vaginal dryness was significantly higher in the control group ($P < 0.05$). Also, by examining the symptoms of menopause during the last 4 weeks, depression in the case group and insomnia in the control group were significantly higher ($P < 0.05$) (Table 2).

In the case group, based on the EORTC-QLQ-C30 questionnaire, the overall quality of life was assessed as good in 36.3% of patients. By determining the cut-off point of 33.3%, 6.3% of patients had physical dysfunction, 2.5% of patients had role dysfunction, 16.3% of patients had emotional dysfunction, 2.5% of patients had cognitive

Table 2. Comparison of Menopausal Symptoms in Case and Control Groups

Signs*		Case	Control	*P* value
		N (%)	N (%)	
Hot flashes	Present	51 (63.75)	76 (76)	0.099
	Absent	29 (36.25)	24 (24)	
Sweating	Present	44 (55)	60 (60)	0.545
	Absent	36 (45)	40 (40)	
Vaginal dryness	Present	26 (32.5)	53 (53)	0.007
	Absent	54 (67.5)	47 (47)	
Heart beat	Present	31 (38.8)	54 (54)	0.051
	Absent	49 (61.3)	46 (46)	
Vertigo	Present	32 (40)	39 (39)	1.000
	Absent	48 (60)	61 (61)	
Anxiety	Present	51 (68.8)	72 (72)	0.262
	Absent	29 (36.3)	28 (28)	
Headache	Present	32 (40)	31 (31)	0.214
	Absent	48 (60)	69 (69)	
Depression	Present	34 (42.5)	26 (26)	0.026
	Absent	46 (57.5)	74 (74)	
Insomnia	Present	37 (46.3)	62 (62)	0.025
	Absent	43 (53.8)	38 (38)	
Disparony	Present	13 (16.3)	25 (25)	0.198
	Absent	67 (83.8)	75 (75)	

* The onset of these symptoms is expected within 4 weeks.

dysfunction and 3.8% of patients had social dysfunction. By selecting a cut-off point of 66.7%, except for emotional function, more than half of the patients performed well in the other four items (Table 3).

Examining the status of symptoms, the worst condition was related to the economic effects of the disease that 25% of patients in this criterion were in a bad condition (Table 3).

Based on the findings of this study and regarding the quality of life in the control group, the lowest score was related to the item Cheerfulness with an average of 55.6 and the highest score was related to the item of 'social performance' with an average of 73.25 (Table 4).

5. Discussion

Based on the results of this study, by examining the symptoms of menopause during 4 weeks, depression and insomnia were significantly higher in the case group and control group, respectively; however, other symptoms of menopause were not significantly different between the two groups. In this study, the onset of menopausal symptoms had little effect. In a study conducted by Conde et al, menopausal symptoms and quality of life were compared in two groups of patients with non-breast cancer (45-65 years old). The frequency of menopausal symptoms between the two groups was similar to that found in the present study.[17] In a study by Crandall et al. in California, the incidence of menopause symptoms was high in women with breast cancer. Flushing and vaginal dryness were more common in postmenopausal women than in others.[18] In a study by Hunter et al. in the United Kingdom, in a study of postmenopausal women with a history of breast cancer, the incidence of choking and sweating was 80% and 72%, respectively. Hot flashes and sweating were associated with poor emotional and social functioning.[19]

In a case-control study by Harris et al in the United States, women with breast cancer experienced 5.3 times more menopausal symptoms than women without cancer.[20] In a study by Dorjgochoo et al. in China, 46.3% of postmenopausal women with a history of cancer experienced menopausal symptoms (hot flashes, sweating, and vaginal dryness) at least once. Flushing was seen in 37.9%, sweating in 28.4%, and vaginal dryness in 11.1% of women with breast cancer.[21]

The results of other studies show that some menopausal symptoms are significantly higher in women with breast cancer, and in others, as in the present study, there is little difference in the symptoms of patients and non-patients.

Table 3. Scores Calculated for Different Dimensions of Quality of Life on the EORTC-QLQ-C30 Scale in the Case Group*

Variables	Number of Items	SD ± Mean	Percentage of People With a Score of ≤33.3%	Percentage of People With 66.7% Points
Overall quality of life	2	62.39 ± 20.25	8.8	63.3
Functional status**				
Physical function	5	68.83 ± 21.63	6.3	55
Role performance	2	75.41 ± 23.57	2.5	52.2
Emotional performance	2	59.68 ± 27.73	16.3	41.3
Cognitive function	4	78.54 ± 23.89	2.5	61.3
Social performance	2	75.62 ± 27.68	3.8	55
Signs and symptoms***				
Fatigue	3	40.31 ± 26.61	35	12.5
Nausea and vomiting	2	14.37 ± 2.47	23.8	2.5
Pain	2	35.12 ± 3.07	40	11.3
Shortness of breath	1	17.08 ± 2.71	62.5	0
Sleep disorder	1	39.16 ± 3.78	31.3	12.5
Decreased appetite	1	22.92 ± 3.22	55	2.5
Constipation	1	14.16 ± 2.57	67.5	1.3
Diarrhea	1	6.67 ± 1.82	38.8	0
Economic effects of the disease	1	51.67 ± 35.53	18.8	25

*For the functional status of people with a score less than 33.3%, dysfunction and people with a score greater than or equal to 66.7% have good performance. For signs and symptoms, people with a score of less than 33.3 percent have a good condition and people with a score higher than or equal to 66.7 percent have problems.

** In the performance status review, a higher score indicates better performance.

*** In the examination of symptoms, a higher score indicates a worse condition.

Table 4. Calculated Scores of Different Dimensions of Quality of Life on the SF-36 Scale in the Control Group

Criterion	Number of items	Mean ± SD
Physical function	10	56.20 ± 26.39
Physical limitations	4	59.25 ± 40.74
Mental problems	3	61.67 ± 40.85
Cheerfulness	4	55.60 ± 15.28
Mental health	5	58.56 ± 16.77
Social performance	2	73.25 ± 21.09
Body pain	2	59.25 ± 26.27
General health	2	57.90 ± 17.75

Perhaps the reasons for this difference in different studies are due to the racial and cultural differences of different societies. In the present study, in patients with breast cancer based on the EORTC-QLQ-C30 questionnaire, the overall quality of life was assessed as good in 36.3% of patients. By determining the cut-off point of 33.3%, 6.3% of patients with physical dysfunction, 2.5% of patients with role dysfunction, 16.3% of patients with emotional dysfunction, 2.5% of patients with cognitive dysfunction, and 3.8% of patients with dysfunction had a social function. Also, by selecting a cut-off point of 66.7%, in addition to emotional performance, more than half of the patients performed well in four other items of performance evaluation. Examining the status of symptoms, the worst condition was related to the economic effects of the disease, in which 25% of patients were in a bad condition.

In the Alawadi and Ohaeri's study in Kuwait, according to the EORTC QLQ-C30 questionnaire, 5.8.2% had dysfunction and 12%-40% had severe symptoms; however, the overall score showed a low functional average of cancer patients.[22] In a study by Waldmann et al in Germany, the quality of life of women with breast cancer was compared with the German general population based on the EORTC C30 questionnaire. The overall quality of life in these patients was similar to that of the general population. But in the economic item, the conditions of the ordinary population were worse.[23]

Numerous studies on quality of life in women with breast cancer from 1974 to 2007 were conducted using a variety of questionnaires. Anxiety and depression were higher in these patients than in the healthy population. Symptoms of pain and fatigue were the most common symptoms referred to in these studies. Poor sexual function was also mentioned as a problem for these women.[24] In a study conducted by Høyer et al in Sweden, the overall quality of life in women with breast cancer was worse than in the general population. Symptoms of severe anxiety and depression were seen in 14% and 6% of patients, respectively.[25] In a study by Yi et al conducted on Vietnamese and Chinese living in the United States, the most common severe symptoms in women with breast cancer according to the EORTC C30 were dissatisfaction (38%), fatigue (26%), and pain (18% Decreased appetite (14%), anxiety (14%), and depression (14%).[26] In a study conducted by Conde et al in Brazil, physical function scores in patients with breast cancer were significantly lower than those without infection.[17]

In the study by Bower et al, the authors concluded that fatigue, physical function, physical limitations, vitality, mental health problems, physical pain, depression, and general health were not significantly different in breast cancer patients compared to non-breast cancer patients.[27] As can be seen, some studies point to a lower quality of life in breast cancer patients than in non-breast cancer patients, but others deny such a difference. In the present study, compared to other studies, women with breast cancer have a better quality of life at different levels, which is in contrast with findings of the study conducted in Kuwait.[22] However, the severity of some symptoms, such as the economic impact of the disease, as well as the severity of some functional conditions, such as emotional performance, require more attention to be paid to these patients.

6. Conclusion

According to the results of this study, the symptoms of menopause in patients with a history of breast cancer were not significantly different from patients without breast cancer. Also, the quality of life of women with a history of cancer was better than other studies. Therefore, by performing appropriate counseling programs and interventions such as stress management, establishing a proper sleep pattern, relaxation, proper physical activity, proper diet, proper training, etc., the quality of life of breast cancer patients can be increased as much as possible.

Authors' Contributions

All authors contributed equally to this study.

Research Highlights

What Is Already Known?

Breast cancer is one of the most common cancers in women and accounts for about 23% of all cancers. Quality of life is also access to information that improves the health status of patients.

What This Study Adds?

Depression is higher in women with breast cancer than in other women. Also, the quality of life in the present study is good in women with breast cancer, which of course requires further studies in higher populations.

Conflict of Interest Disclosures

The authors declare that they have no conflicts of interest.

Ethical Approval

The present study was described for all patients and written consent was obtained from all these patients. Also, all patients' information remained confidential with the researcher.

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