

## Evaluation of Quality of Life and Menopausal Symptoms in Women with Breast Cancer in Northern Iran

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**Abstract:** *Background:* Breast cancer is one of the most common cancers in women and includes approximately 23 percent of all kinds of cancer. The main purpose of this study is to determine menopause symptoms and quality of life in postmenopausal patients with breast cancer. *Material and Methods:* In this study of postmenopausal women between the age of 40 -65 years, 80 women with history of breast cancer obtained and filled an informed consent, a checklist including menopause symptoms and a EORTC C40 quality of life questionnaire. Based on scoring criteria, each of the scale scores in the mentioned questionnaires was determined after entering the statistical software SPSS 18. *Results:* In this study, hot flashes and anxiety were the most prevalent symptoms in women with breast cancer. Quality of life in 36.3 percent of patients was evaluated as good. After studying the signs and symptoms, the worst condition was related to the economic impact of the disease which 25 percent of patients were in this bad condition. *Conclusion:* In this study hot flashes were one of the most common symptoms of menopause in patients and quality of life was better than the other studies with a culture similar to our society.

**Key words:** Quality of Life • Menopause symptoms • EORTC C30 questionnaire

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### INTRODUCTION

**Background:** Breast cancer is the second most prevalent malignant cancer in women of the world and millions of dollars each year is spent for the costs of this illness [1]. In America approximately 215990 new cases for breast cancer were reported in the year 2004. A significant number of suffering women were between 40-60 years of age which is similar to the mean age at menopause at 51.1 years in America [1, 2]. With the decrease of mortality of women with breast cancer the number of post-menopausal women with a history of breast cancer has increased [1]. Most of the women show menopausal symptoms at the time of diagnosis [3].

The studies conducted on incidence of menopausal symptoms in women with breast cancer showed that 65% of them experienced hot flashes, 44% night sweats and 48% vaginal dryness, which one of the most important factors of menopausal symptoms in these women was the

use of tamoxifen [4, 6]. In another study, 68% hot flashes, 48% vaginal dryness and 26% dyspareunia was reported in women with breast cancer which using tamoxifen and aromatase inhibitors was mentioned as factor related to symptoms [7], which may be very severe and frequent in these women and have a negative effect on quality of life [8, 9]. Numerous studies on quality of life in women with breast cancer from (the year) 1974 to 2007 which was done by different questionnaires were examined. Anxiety and depression in these patients was higher than healthy population. Symptoms of pain and fatigue were the most prevalent symptoms mentioned in these studies. Also, poor sexual performance was one of the problems of these women [10].

Studies assessing QOL and menopausal symptoms in women with breast cancer have been conducted in developed countries where economic and cultural factors are different from developing countries [1].

Given the fact that cultural and ethnic differences affect menopausal symptoms and quality of life [2], the purpose of recent study is to evaluate the frequency of menopausal symptoms and quality of life in women with breast cancer who did not use tamoxifen or hormone treatment.

## MATERIAL AND METHODS

This study was conducted on 80 women between the age of 45-65 years with breast cancer, normal menopause and menopausal symptoms during the past 4 weeks, admitted to the medical centers of Shahid Rajayi Hospital and Ayatollah Rouhani Hospital affiliated to Babol University of Medical Sciences. Inclusion criteria were having no cancer in other parts of body and no use of hormone therapy or tamoxifen in at least past 6 months. Before filling the questionnaire, the mentioned project was described for all of the patients and after obtaining informed consents, these patients were entered into the study.

For all of these patients a checklist including age, age at menarche, body mass index, smoking (currently or quit smoking in the past 5 years and not before), age at menopause (at least 12 months of amenorrhea), hot flashes, perspiration, palpitations, dizziness (vasomotor symptoms), anxiety, headache, depression, insomnia (psychological symptoms), dyspareunia, vaginal dryness (genital symptoms) was filled.

In order to assess the quality of life the EORTC QLQ-C30 questionnaire (The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire) which it's Persian translation's reliability and validity was confirmed by doctor Montazeri and colleagues was used [11]. This questionnaire contained 30 questions including 9 parts of multi questions. One part was related to quality of life, 5 parts were related to performance status (physical, role, anxiety, cognitive and social), 3 parts were related to signs and symptoms (fatigue, pain, nausea and vomiting) and 6 individual parts (shortness of breath, sleep disturbances, loss of appetite, constipation, diarrhea and financial impacts of the disease). From these 30 questions, answers for 28 of them were considered as no [1], slight [2], high [3], very high [4]. Answers for the last two questions which were relevant to quality of life, varied from 1 (poor) to 7 (perfect).

After filling the questionnaires, scores of different parts were calculated in this way:

### Functional Status Score:

Total score of relevant questions = Total score/ Total questions of relevant section

Score =  $(1 - (\text{Total score} - 1) / \text{Range of questions of relevant section}) * 100$

Range of questions in functional status section is <<3>>.

### Signs and Symptoms Sections Score:

Total score of relevant questions = Total score/ Total questions of relevant section

Score =  $((\text{Total score} - 1) / \text{Range of questions of relevant section}) * 100$

Range of questions in signs and symptoms section was <<3>>.

### Score of Quality of Life Section:

Total score of relevant questions = Total score/ Total questions of relevant section

Score =  $((\text{Total score} - 1) / \text{Range of questions of relevant section}) * 100$

Range of questions in quality of life section was <<6>>.

Thus, using the above formulas, the score of each section was calculated numerically from zero to 100. For functional status, patients with a score less than 33.3 had <<dysfunction>> and for patients with a score greater than or equal to 66.7 had <<good functioning>>. In assessment of functional status, higher score shows better functionality whereas in evaluating symptoms, higher score shows a worse situation. Data was statistically analyzed, after being recorded in the designed tables.

## RESULTS

The results of this study indicate that mean and standard deviation of age of the subjects was 52.26±10.04. Mean and standard deviation of age at menarche, age at menopause and body mass index in subjects were 12.47±0.97, 46.97±6.99 and 27.45±3.67, respectively. Menopausal symptoms in post-menopausal women with breast cancer are shown in Table 1. As it can be observed, most prevalent symptoms of menopause are hot flashes and anxiety (63.8%), perspiration (55%) and insomnia (46.3%), respectively.

In patients with breast cancer according to EORTC C30 questionnaire quality of life was evaluated as good in 36.3 percent of the patients (Table 2). With the chosen cut-off point of 33.3 percent, 6.3 percent of patients had physical dysfunction, 2.5 percent of the patients had role

Table 1: Prevalence of menopausal symptoms in postmenopausal women with breast cancer

Symptoms	Prevalence of symptoms No (%)
hot flashe	
Yes	51(63.8)
No	29 (36.3)
Sweating	
Yes	44 (55)
No	36 (45)
Vaginal dryness	
Yes	26 (32.5)
No	54 (67.5)
Palpitation	
Yes	31 (38.8)
No	49 (61.3)
Dizziness	
Yes	32 (40)
No	48 (60)
Anxiety	
Yes	51 (63.8)
No	29 (36.3)
Headache	
Yes	32 (40)
No	48 (60)
Depression	
Yes	34 (42.5)
No	46 (57.5)
Insomnia	
Yes	37 (46.3)
No	43 (53.8)
Dyspareunia	
Yes	13 (16.3)
No	67 (83.8)

dysfunction, 16.3 percent of the patients had anxiety dysfunction, 2.5 percent of the patients had cognitive dysfunction and 3.8 percent of the patients had social dysfunction. With the chosen cut-off point of 66.7 percent, except for anxiety functioning, in all the other four items of performance evaluation more than half of the patients had good functionality. With the study of signs and symptoms, the worst status was related to economic impacts of the disease which 25 percent of the patients were in these poor criteria.

Table 1: Menopausal symptoms in post-menopausal women with breast cancer

\*Occurrence of these symptoms within 4 past weeks was considered.

Table 2: Evaluated scores of different aspects of quality of life on the scale of EORTC C30 in patients with breast cancer

\*The functional status of patients with a score less than 33.3 percent was dysfunctional and for patients with a score greater than or equal to 66.7 percent was good functionality. For signs and symptoms, patients with a score less than 33.3 percent are in good condition and patients with a score greater than or equal to 66.7 percent have a problem.

\*\*In evaluation of functional status, higher score shows better functionality.

\*\*\*In evaluation of symptoms, higher score shows worse condition.

Table 2: QLQ – C30 scale scores, percentage of subjects with problems and in good condition<sup>a</sup> in postmenopausal women with breast cancer

Variables	No. of items	Mean (SD)	% scoring < 33.3%	% scoring = 66.7%
C-30 Functional scales <sup>b</sup>				
Global QOL scale	2	62.39±25.02	8.8	36.3
Physical functioning	5	68.83±21.63	6.3	55
Role functioning	2	75.41±23.57	2.5	52.2
Emotional functioning	2	59.68±27.73	16.3	41.3
Cognitive performance	4	78.54±23.89	2.5	61.3
Social functioning	2	75.62±27.68	3.8	55
C – 30 symptoms/scales <sup>c</sup>				
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
Dyspnoea	1	17.08±2.71	62.5	0
Insomnia	1	39.16±3.78	31.3	12.5
Appetite loss	1	22.92±3.22	55	2.5
Constipation	1	14.16±2.57	67.5	1.3
Diarrhea	1	6.67±1.82	83.8	0
Financial impact	1	51.67±35.53	18.8	25

aFor functional scales, subjects scoring < 33.3% have problems; those scoring = 66.7% have good functioning. For symptom scales/symptoms, subjects scoring < 33.3% have good functioning; those scoring = 66.7% have problems

b For functional scales, higher scores indicate better functioning

c For symptom scales, higher scores indicate worse functioning

## DISCUSSION

Based on the results of this article with the studying of menopausal symptoms within the past 4 weeks, the most prevalent menopausal symptoms in patients with breast cancer were hot flashes and anxiety, respectively. Similar to our study, Crandall *et al.* in California showed that 71 percent of the women with breast cancer had hot flashes after menopausal symptoms [12]. Also, in Hunter *et al.* study in England, in studying post-menopausal women with history of breast cancer, frequency of hot flashes and perspiration were 80 and 72 percent, respectively [13]. Doringochoo *et al.* in China reported that 46.3 percent of post-menopausal women with history of breast cancer experience menopausal symptoms (hot flashes, perspiration) at least once [14]. Hot flashes are the most prevalent severe changes in menopausal period, which in some cultures occurs in more than 75 percent of women, but only 20 percent of these women refer to doctors for treatment [15].

In recent study on patients with breast cancer based on EORTC C30 questionnaire quality of life was considered as good in 36.3 percent of the patients. With the cut-off point of 33.3 percent, 6.3 percent of the patients had physical dysfunction, 2.5 percent of the patients had role dysfunction, 16.3 percent of the patients had anxiety dysfunction, 2.5 percent of the patients had cognitive dysfunction and 3.8 percent of the patients had social dysfunction. With the chosen cut-off point of 66.7 percent, except for anxiety functioning in the other four items of performance evaluation, more than half of the patients had good functionality. With the study of signs and symptoms, the worst status was related to economic impacts of the disease which 25 percent of the patients were in these poor criteria. In Alawadi and Ohaeri study in Kuwait, based on EORTC QLQ-C30 questionnaire 5.8-11.2 percent had dysfunction and 12-40 percent had had severe symptoms. But total score showed that functionality of the patients with cancer was below the average [16]. In Waldmann *et al.* study in Germany, quality of life of women with breast cancer based on EORTC C30 questionnaire was compared with general population reference data of Germany. Quality of life in these patients was similar to general population but functionality status and symptoms in all sections were worse. But in economical item, general population condition was worse [17]. In a systematic review which was conducted by Montazeri in the year 2008, several studies about quality of life in women with breast cancer from the years 1974 to 2007 which used different

questionnaires, were reviewed. Anxiety and depression in these patients was higher than healthy population. Pain and fatigue symptoms were the most prevalent symptoms which were pointed at in this study. Also, poor sexual performance was one of the problems of these women [10]. In Hoyer *et al.* study in Sweden, quality of life of women with breast cancer was worse compared to general population [18]. In Yi *et al.* study which was conducted on Vietnamese and Chinese residents of the United States, the most prevalent severe symptoms in women with breast cancer based on EORTC C30 questionnaire included: Unpleasantness (38 percent), fatigue (26 percent), pain (18 percent), anorexia (14 percent), anxiety (14 percent) and depression (14 percent) [19]. In a study conducted by Conde *et al.* in Brazil Score of physical functioning in patients with breast cancer was significantly lower than those without the disease [20]. In Bower *et al.* study, authors concluded that fatigue, physical functioning, physical limitations, vitality, emotional problems, physical pain, depression and overall health in patients with breast cancer had no significant difference with the ones without the disease [21].

As it is noted some studies demonstrate lower quality of life in patients with breast cancer compared to the ones without the disease, but others deny this difference. In our study compared to other studies, women with breast cancer have better quality of life in different aspects which in this case comparing our study with the study conducted in Kuwait [16] shows more significance. However, severity of some symptoms like economic impacts of the disease and also some functionality statuses being bad like anxiety functioning demands greater attention to these patients.

## CONCLUSION

Based on the results of this study the most prevalent menopausal symptoms in women with history of breast cancer like other studies is hot flashes and also quality of life of women with history of breast cancer was better compared to other studies conducted in cultures similar to our society.

## ACKNOWLEDGEMENTS

Authors would like to thank the Research's Vice chancellor of the University for their Financial Support. We also appreciate the collaborations of the Health's Vice chancellor for as well as all the staff working in the related health centers.

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