HEALTH-RELATED QUALITY OF LIFE IN WOMEN WITH BREAST CANCER ATTENDING BASRAH ONCOLOGY CENTRE

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Abstract

Quality of life issues are increasingly being recognized as critical in the spectrum of cancer treatment that the prolongation of survival cannot be the only therapeutic objective. In some cases, patients and physicians may have to choose between the prospects of longer survival or better quality of life during the remaining time.

This is a cross sectional study carried out to measure health-related quality of life in 275 women with breast cancer attending Al-Basrah oncology center during six months period, data were collected through direct interview using the standard European Organization for Research and Treatment of Cancer Core Quality of Life Questionnaire (EORTC-C30) and its complementary questionnaire specific for breast cancer (QLQ -BR -23).

The study showed that the mean score for global QoLwas52.39 ±17.1 indicating that the patients had average scale score. The most important predictors of global QoL were physical, role, cognitive and sexual functions in addition to future perspective and arm symptoms.

In conclusion the most important determinants predicting global QOL were role, physical, cognitive and sexual functions in addition to future perspective and arm symptoms.

Keywords: Breast cancer, quality of Life (QoL), (EORTC-C30), (QLQ -BR -23).

Introduction

Breast cancer in women is a great medical problem and it is the most common cancer among women worldwide [1]. Globally the cases of breast cancer constitute 20% of all annually diagnosed cancer cases and 26% of new cancer cases among women [2]. Supposing present trends in incidence rates keep constant, there will be 2.7 million new cases worldwide in 2030 [3]. During the years 2005-2008 breast cancer was the most common cancer in Basrah governorate; constitute 16.8% of all incident cancers and 30.2% of all cancer patients among women [4]. The number of breast cancer survivors increased with the advancement in tools that detect early breast cancer and development of novel multimodality therapies. So the quality of life challenges are more and more being established as critical in the scene of cancer therapy [5]. Therefore, the standard post-therapy follow-up monitoring of these patients should address long-term complications of therapy, quality-of-life issues, and routine medical care [6]. Consequently, avoidance of complications and improvement of function should be considered as early in the management course as possible. Breast cancer survivors often experience physical and psychosocial impairments that can negatively influence their quality of life. From the time of diagnosis, breast cancer patient and her family suffer a broad spectrum of emotions. Patients may have a deteriorated self-image due to mastectomy and an awareness of the loss of a sexually significant body part. Patients may also identify themselves as unappealing and withdraw from friends [5].

Quality of life is defined by WHO as" an individual's insight of their position in life in the context of the culture and value systems in which they live and about their objectives, anticipations, standards, and affairs. It is a wide-ranging concept impacted in a complex way by the person's physical wellbeing, psychological state, degree of self-determination, social relations, and their relationships to prominent characteristics of their surroundings" [7]. Reviewing the literature on quality of life among survivors of breast cancer noted that both demographic and clinical variables, like the stage of breast cancer, duration of illness, educational status, employment, and marital status, may be determinants of cancer patients' quality of life [8, 9, 10, 11, 12, 13, 14] along with other variables such as their ethnicity [15] and residency [16]. The survival of women with metastatic breast cancer is often prolonged, the prevalence of the metastatic disease is high, and indeed, the care for women with metastatic breast cancer is a major challenge for oncol-

ogists and palliative care teams [17].

The present study was carried out to assess the impact of diagnosis and treatment of breast cancer on the quality of life of breast cancer patients attending Al-Basrah oncology centre and to identify the main predictors of functional and global quality of life scales.

Patients and methods

The present study is a cross-sectional study carried out in Al-Basrah oncology center during a period of 6 months extending from the 1st of January to the 30th of June, 2012. The subjects were female patients with confirmed histological diagnosis of breast cancer attending the outpatient clinic of Al-Basrah oncology center during the study period. All women with breast cancer whether they were from Basrah or from other governorates who fulfilled the study's inclusion criteria were included.

A total of 275 female patients with breast cancer who consecutively attended Al-Basrah oncology outpatient clinic for treatment or follow-up were enrolled. . However, new patients who were attending the center for their first dose of chemotherapy or their duration of the disease was less than 2 months were excluded.

Basrah Health Directorate official agreement to carry out the study was obtained before starting the study. The data were collected from the enrolled women by direct private interviews by one of the researchers. Before the interviews patients gave verbal informed consent to participate in the study.

The standard European Organization for Research and Treatment of Cancer Core Quality of Life Questionnaire (EORTC QLQ-C30) and (QLQ-BR23) were used in this study. The scores for scales of the EORTC QLQ – C30 range from 0 to 100. A high score for a functional scale represents a high / healthy level of functioning, a high score for the global health status / QoL represents a high QoL. But a high score for a symptom scale / item represents a high level of symptomatology / problems [18].

The data were analyzed by the Statistical Package for Social Science (SPSS) version 15. Descriptive statistics like the socio-demographic & clinical characteristics were presented as frequencies, and percentages. In addition multiple linear (stepwise) regression analysis was conducted to determine the predictors of global QoL and QLQ-C30 functional scales. P-value of <0.05 was the criterion of statistical significance.

Results

Socio-demographic characteristics of the study population. The age of the studied women ranged between 21-83 years, the mean age was 48 ±10.3 years; Table (1). The highest proportion of the study population were living in Basrah city center (40.4%), 35.3% in other districts in Basrah governorate and only 24.4% of the patients were from other governorates mainly from Thi-qar & Missan . About two thirds of breast cancer patients were married (62.2%), illiterate patients formed 37.1% of the study population, while only 11.6% had higher education (studied for 13 years or more) Majority of the studied patients were housewives (81.8%), while 14.9% of them were employed; Table (1).

Clinical characteristics: As for clinical characteristics of the study participants; the majority were diagnosed at stages II and III & more than half of them had the disease for at least 2 years. According to the case records of the studied breast cancer cases, the vast majority underwent mastectomy and received chemotherapy; Table (2).

Quality of life: The mean score for the global health status for breast cancer patients in present study was52.39 ±17.1. The best functional outcomes were found for the physical and role functioning subscales while emotional, cognitive & social functioning scored the lowest. The mean scores for symptom scales are shown in Table (3). The worst symptom scales were those for insomnia, pain, fatigue, appetite loss and dyspnea. Better symptom scores were found for other symptoms like diarrhea, constipation, and nausea& vomiting indicating that these symptoms were less severe. The majority (83.3%) of breast cancer patients had financial difficulties.

Regarding BR-23 Scales, more than half (54.5%) of the studied patients in present study had poor body image. They also had a relatively poor sexual functioning &enjoyment. Similarly, a high percentage of the participants (61.1%) had poor scoring in future perspective scale Table (4). The most intense symptom experienced by the studied women was hair loss followed by systemic therapy side effects and arm symptoms.

Table (1) Socio-demographic Characteristics of the study population

Variable	No.	%
Age		
≤30	7	2.5
30-39	45	16.4
40-49	88	32.0
50-59	90	32.7
≥60	45	16.4
Residence		
Basrah City center	111	40.4
Other Basrah districts	97	35.2
Other governorates	67	24.4
Marital status		
Single	24	8.7
Married	171	62.2
Divorced/widowed	80	29.1
Education (years)		
Illiterate	102	37.1
≤6	77	28.0
7-12	64	23.3
≥13	32	11.6
Occupation		
House wife	225	81.8
Employed	41	14.9
Retired	9	3.3
Total	275	100

Quality of life predictors: The results showed that role, physical, cognitive and sexual functions, future perspective and arm symptoms were significant predictors of global QoL of breast cancer patients. They explained 94.7% of the variability in QoL. Table (5).

With respect to functional scales; Physical functions of breast cancer patients were mainly determined by patients' age, fatigue, role function, body image, type of treatment and the overall perception of quality of life. These factors explained 97.3% of physical function. While role function was mainly determined by the severity of systemic therapy side effects, physical function, fatigue, nausea& vomiting, breast symptoms, and the overall perception of quality of life. These factors explained 95.6%

of role function. Cognitive function was affected only by emotional function and the overall perception of quality of life, which explained 62.9% of cognitive function. While emotional function was mainly determined by social and cognitive functions and future perspective, they explained 62.2% of emotional function of breast cancer patients. On the other hand, 72.6% of social function was explained by emotional and sexual functions in addition to dyspnea Table (5).

Discussion

The global QoL mean score in this study (52.3±17.1) was higher than that reported for women with breast cancer in Kuwait [13], (45.3 ±15.3) but lower than that in UAE [19] and Korea [20],

Table (2) Clinical characteristics of the study population

Variable	No.	%
Family history of breast cancer		
Yes	46	16.7
No	229	83.3
Family history of other cancers		
Yes	79	28.7
No	196	71.3
Stage		
0	1	0.4
I	13	4.7
II	131	47.6
III	91	33.1
IV	39	14.2
Duration of disease (years)		
<1	86	31.3
1-5	151	54.9
>5	38	13.8
Type of treatment		
Chemotherapy alone	16	5.8
Surgery+ chemotherapy	85	30.9
Surgery+ chemo+ hormonal therapy	109	39.6
Surgery+ chemo+ hormonal+ radiotherapy	65	23.6
Total	275	100

(74.6 & 66.5) respectively, and similar to that for breast cancer patients in China (52.3) [21].

The pattern was the same for physical and role functioning. On the other hand, emotional, cognitive& social functioning scores in this study were less than those reported in Kuwait [13], UAE [19], Turkey [11], and Iran [12]. This may indicate less social and institutional support to breast cancer patients in Basrah, which can help the patients to boost psychosocial wellbeing. Based upon these findings provision of supportive care to meet patients' individual requirements is instrumental in enhancing their quality of life and paying more attention for rehabilitation plans by holding consultation sessions for the patients and continuing nursing services for them. Consequently, the doctors and staff of the Basra Oncology Center must be trained in the near-term rehabilitation plan.

Regarding symptom scales of QLQ-C30, the most intense and more frequent three symptoms in this study were sleep disturbance, pain & fatigue. This pattern generally agrees with that reported for breast cancer patients in other Arabian countries like Kuwait [13], UAE [19], and & other European countries like UK [9], and Sweden. [22] The present study, however, indicated more intense symptoms for dyspnea & appetite loss than those reported in several other studies, [9, 10, 12, 22], but these symptoms were less intense than among breast cancer patients in Kuwait [13].

An important result in the present study was that the mean score for the financial impact of breast cancer (82.7±32.7) was higher than that reported in all other reviewed studies [9, 10, 13, 19, 21, 22]. This may be mainly due to the shortage in chemotherapy provided or made available for the patients by the oncology center; therefore, the patients had to pay a lot of money to buy very expensive chemo-

Table (3) The mean, SD, and 95% CI scores of the EORTC QLQ-C30

Variables	Mean	SD	95% CI	% of poor scoring	% of good scoring
C-30 Functional scales*					
Global QoL	52.39	17.1	50.36-54.42	20	28.4
Physical function	75.7	25	72.74-78.68	8	74.5
Role function	76.73	32.1	72.90-80.50	13.5	73.8
Emotional function	41.64	37.8	37.10-46.10	52.4	33.1
Cognitive function	43.59	36.4	39.27-47.90	45.5	29.8
Social functioning	44.79	40.5	39.97-49.60	50.5	46.5
C-30 Symptoms scales#					
Fatigue	34.3	29.4	30.80-37.80	18.5	63.3
Nausea & vomiting	16	30	12.40-19.60	10.2	81.1
Pain	35.3	29.8	31.80-38.90	18.2	54.5
Dyspnea	26.2	37.1	21.80-30.60	25.8	74.2
Sleep disturbance	40.2	43.1	35.10-45.30	38.5	61.5
Appetite loss	27.9	39.8	23.10-32.60	24.4	75.6
Constipation	15.7	33.8	11.70-19.80	15.6	84.4
Diarrhea	13.7	30.8	10.00-17.30	11.6	88.4
Financial impact	82.7	32.7	78.70-86.50	83.3	16.7

* Scores range from 0 to 100, with higher mean scores corresponding to better functioning.
# Scores range from 0 to 100, with higher mean scores corresponding to more frequent &/or more intense symptoms

Table (4) The mean, SD, and 95% CI scores of the BR-23

Variables	Mean	SD	95% CI	% of poor scoring	% of good scoring
QoL - BR23: Functional scales*					
Body image	60.4	42.5	55.4-65.5	54.5	18.2
Sexual functioning#	44.4	21.3	39.9-48.9	45.5	10.2
Sexual enjoyment#	37.0	26.2	31.5-42.5	28.0	10.2
Future perspective	34.8	42.9	25.8-43.8	61.1	38.9
BR23: Symptom scales#					
Upset by hair loss	72.0	43.4	63.5-81.6	53.5	29.1
Systemic side effects	58.7	21.6	54.2-63.3	34.5	22.5
Arm symptoms	46.6	29.5	40.4-52.8	28.4	59.6
Breast symptoms	13.7	19.0	9.7-17.7	4.7	88.4

* Scores range from 0 to 100, with higher mean scores corresponding to better functioning.
# Scores range from 0 to 100, with higher mean scores corresponding to more frequent &/or more intense symptoms

therapy. Regarding the Profile of BR-23 scores; for the functional scales of the BR-23, the mean score for body image was similar to that reported in Kuwait [13], Iran [12], & China [21]. On the other hand, the results indicated worse sexual functioning for women with breast cancer in the present study compared to that for Iranian, Kuwaiti, and Emirati women [12, 13, 19]. However, sexual functioning in this study was better than that in UK, Korea & China, which may be related to cross-cultural variations [9, 10, 22]. For the symptom scales of BR-23, the mean scores indicated that women in this study had more intense symptoms than women from all the comparison countries for systemic side effects, arm symptoms & upset by hair loss [9,10,12,13,19,22]. The pattern was the reverse for the breast symptoms, that women in this study had less intense breast symptoms than women from all the com-

Table (5) Predictors of functional health status and global quality of life

Dependent variable	Independent variables (Predictors)	Standardized Coefficients	P value	R²
Global quality of life	Role function	0.290	0.001	0.947
	Physical function	0.367	0.004	
	Cognitive function	0.100	0.010	
	Sexual function	0.119	0.025	
	Future perspective	0.098	0.003	
	Arm symptoms	0.094	0.020	
Physical function	GQoL	0.214	0.007	0.973
	Age	0.603	0.000	
	Role function	0.345	0.000	
	Body image	-0.077	0.009	
	Fatigue	-0.144	0.000	
	Type of treatment	0.155	0.011	
Role function	GQoL	0.211	0.018	0.956
	Physical function	0.531	0.000	
	Fatigue	0.104	0.014	
	Nausea& vomiting	-0.091	0.002	
	Systemic side effects	0.274	0.000	
	Breast symptoms	-0.091	0.005	
Cognitive function	GQoL	0.588	0.000	0.629
	Emotional function	0.266	0.004	
Emotional function	Cognitive function	0.311	0.001	0.622
	Social function	0.317	0.000	
	Future perspective	0.303	0.002	
Social function	Physical function	0.823	0.000	0.726
	Emotional function	0.281	0.001	
	Dyspnea	0.153	0.025	
	Sexual function	-0.329	0.005	

parison countries except Iran [12]. These variations may be partly attributed to the lack of formal psycho-education and inappropriate preparation of the patients for toxicities of treatment. The highlight of regression analyses was that the functional scale scores were more important in predicting global QoL, than the scores of the symptom scales which may be due to the response–shift phenomenon [23].

Socio-demographic characteristics and symptom scales of QLQ-C30 had no significant role as determinants for global QoL. These results disagree with the results of other studies [13,24], which found that age, occupation& pain predicted global QoL scores. Regarding BR-23 scales, this study found that sexual function, arm symptoms& future perspective significantly predicted global QoL scores.

These results agree with those reported in the Kuwaiti study [13].

Conclusions

About three quarter of the breast cancer patients in this study met the criterion for good functioning on physical& role functioning scales. The most important determinants predicting global QOL were role, physical, cognitive and sexual functions in addition to future perspective and arm symptoms.

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