Quality of life in patients with breast cancer in Kashan: A cross-sectional study

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Abstract: One of the most common cancers among women is breast cancer whose outbreak is increasing all over the world. This disorder affects different dimensions of patients' lives; therefore, the present study was aimed at measuring life quality of patients with breast cancer. **Materials and Method:** The present cross-sectional study was conducted on 92 patients with breast cancer in Kashan. They were randomly selected through cluster sampling. Required data in different dimensions were collected through the questionnaire of Quality of Life in Breast Cancer (QOL-BC) patients and analyzed through descriptive and inferential statistics using SPSS 14.0 software. **Results:** Patients' average age was 42.9±8.7 and 57% of them were married. Total quality of life in 87% of the patients was average and that of 13% of them was high. Moreover, the highest quality of life in spiritual and physical dimensions was respectively 67.4% and 59.8%. And the lowest quality of life was related to psychological and financial dimensions. Statistical tests showed a significant relation between quality of life and age, disease duration, and fatigue and an inverse significant relation with the interval between diagnose and treatment. In addition, quality of life had no significant relation with marital status, education, and occupation. **Discussion:** According to the results of the present study that indicate favorable quality of life in physical dimension and low quality of life in psychological dimension, applying psychiatric techniques and social-psychological support and above all establishing communication with mutual understanding and respect to the patient can play a key role in controlling the disease complications and treatment whereby quality of life rises.
[Safa A, Rahemi Z, Aghajani M. **Quality of life in patients with breast cancer in Kashan: A cross-sectional study.** *Life Sci J* 2014;11(1s):141-145]. (ISSN:1097-8135). http://www.lifesciencesite.com. 23

Keywords: quality of life; breast cancer

Introduction

Following cardiovascular diseases and accidents, cancer as the most important disease of the present century is the third cause of death [1]. It is also one of the chronological diseases in which the patient faces with a wide range of complications from the disease development until years after recovery. Among the most predominant consequences of the disease are physical, psychological, social, and financial complications. If these complications are not controlled, the patient's treatment will fail and almost be in vain [2]. Breast cancer is the most common cancer among women [2]. Age increase, genetic factors, family background, hormonal factors, late menopause, lack of pregnancy or pregnancy in an old age, and environmental factors like diet and lifestyle are mentioned as risk factors of breast cancer [3, 4]. Surgery is among the most common and effective treatments of cancer [2, 5]. According to the statistics in Iran, 85% of breast surgery is mastectomy. However, patients who undergo surgery also experience some threats posed by the cancer and the surgery [6]. Diagnosis of cancer and then its treatment can deeply affect the patients' temper, spirit, and social, occupational, and family relationships [7] and endanger quality of their lives [8, 9]. Before mastectomy, the patient faces with severe anxiety due to different factors such as fear of surgery, waiting for mastectomy, lack of knowledge, fear of death, and hesitation about surgery success, which subsides with a successful mastectomy [10, 11]. Although mastectomy is a part of treatment procedure, it can have unfavorable physical and psychological effects on patients such as negative thoughts about sexual attractiveness, uncertainty regarding the level of sexual desire, unfavorable attitude towards their appearance, self-esteem decrease, and stress caused by physical malformation in patients [12, 13, & 14]. Quality of life is a dynamic, multidimensional, mental concept that changes with time and situation. This dynamic nature helps researchers provide better life for patients by conducting related studies [15]. Prevention type III is one of the most important social roles carried out by nurses in order to enhance life quality of patients suffering from chronic diseases [16]. Nurses are responsible for changing the patients' lives in a way that their health and recovery will be ensured and maximizing the quality of their lives and independence [17]. Among advantages of studies related to measurement of quality of life is that the results can be utilized as a criterion for assessing the patient's treatment [18]. The present study was aimed

at measuring quality of life in patients with breast cancer so that the results can help quality of breast cancer patients' lives enhance.

Materials and Method

The present research is a cross-sectional study that was conducted in order to measure quality of life in patients with breast cancer in Kashan in 2010-2011. Based on their characteristics, participant patients were randomly selected through cluster sampling from among those who had referred to cancer registry center and pathology centers in Kashan. Inclusion criteria were age of 20-60, passage of at least three months from treatment, lack of physical chronic, underlying, and psychological diseases. Data collection was carried out through a questionnaire that had two sections. The first section contained demographic information and the second section was a questionnaire of life quality in patients under mastectomy, which was adopted from the American Quality of Life Breast Cancer (QOL-BC) questionnaire, and its reliability and validity were tested. The questionnaire was designed on 5 dimensions of physical, psychological, social, financial, and spiritual conditions and had 49 items. Each item had 4 options from 0 to 4. Maximum scores in physical, psychological, social, financial, and spiritual conditions were respectively 56, 80, 32, 12, and 16. The maximum total score was 196. By converting all percentages in all dimensions, scores were assigned this way: 0-33 percent was low, 34-67 percent was average, and 67 and more was high [19].

In order to determine the number of participants, the approximate annual number of patients was measured. According to the required sample number and table of random numbers, the target patients were selected. According to previous studies [20] and considering d=0.01, P=0.45, and α=0.05, sample number was assigned as 77 patients that was turned into 92 by adding 20% in order to compensate for probable sample reduction. After necessary permission was gained from the University Treatment Department and coordination with Kashan Cancer Registry Center and Pathology Laboratories was arranged, data collection was carried out by a trained interviewer. Then, the patients were called, the purpose of the study was explained to them, they were ensured that their information would be kept confidential, appointment time was determined, and questionnaires were filled out in their presence. Collected data were analyzed through SPSS 14.0. Significance level was set at 0.05.

Results

The results of the study showed that the participants' average age was 42.9±8.7 and that most cases of cancer were located in age group of 40-49. Regarding quality of life, the results of the study showed that the total quality of life in 87% of the patients was average and 13% of them had high quality of life. Investigating different dimensions of life quality in the patients showed that the highest score of life quality was related to physical and spiritual dimensions and the lowest to psychological and financial ones (See Table 2). The results of the present study showed that the highest level of quality of life was in age group of 40-49 and the lowest in patients over 50 years old. Moreover, statistical tests indicated a significant relation between total quality of life and the patient's age ($P\leq0.01$). There was significant relation between age group and some dimensions of life quality, such that patients aged 40-49 significantly had better psychological (P=0.005) and social (P=0.008) conditions. There was no significant relation between marital status and total score of life quality. Regarding physical dimension, the highest score was related to the single and divorced groups and the lowest one to the widowed group, and the married patients had average physical conditions (P=0.001). Regarding psychological dimension, the lowest score was related to the single patients ($P\leq0.05$). Regarding spiritual dimension, the married patients had the highest score and the single ones had the lowest score, this relation was significant ($P\leq0.05$). However, the relation between marital status and financial status was not significant.

Investigating the relation between education and quality of life showed that in the range of illiterate, elementary, and high school life quality score with a zero ratio was respectively high, 11.4, and 20%. In patients with university education, life quality score was low, which was not statistically significant. Investigating the relation between education and different dimensions of life quality, there was a significant relation just between this dimension and psychological dimension (P=0.009). The best psychological condition was observed among patients with elementary and high school education while psychological condition score in illiterate patients and those with university degrees dropped. Investigating the relation between occupation and different dimensions of life quality showed that employed patients had better quality of life. However, according to ANOVA and Fisher tests, this relation was not significant. There was only a significant relation between occupational status and the patients' spiritual and physical conditions, such that the employed patients' physical condition was better than that of the unemployed ones (P=0.01). On the contrary, in unemployed women with a better spiritual condition, a better quality of life was observed (p=0.02). The results of the study showed that on average the

patients had undergone surgery 1,4 months after being diagnosed with cancer (0 to5 months). Quality of life had an inverse significant relation with the interval between disease diagnose and treatment, that is the sooner the patients had been treated, the higher their quality of life would be, and the later the patients had been treated, the lower their quality of life would be (P≤0.05). Investigating persistence and dimensions life quality indicated that patient's quality of life dropped with passage of time from diagnose (P=0.05). Regarding the relation between fatigue and dimensions of life quality, there was a significant relation between fatigue and physical dimension of life quality, such that the patients with higher level of fatigue had more unfavorable physical conditions (P≤0.05). In the present study, the relation between quality of life and number of children, traveling outside the town and pain was also investigated and the results showed that there was no significant relation between quality of life and these variables.

Table 1. Relative and absolute frequency distribution of patients with breast cancer

Status		Number	Percent
Marital Status	Single	13	14.2
	Married	52	56.5
	Divorced	12	13
	Widowed	15	16.3
Education	Illiterate	8	8.7
	Elementary	35	38
	High School	34	37
	University	15	16.3
Occupation	Employed	27	29.3
	Housekeeper	65	70.7
Travel for Treatment	Yes	49	53.3
	No	43	46.7

Table 2. Dimensions of life quality in patients with breast cancer

Life Quality Dimensions	Low		Average		High		Total	
	N.	%	N.	%	N.	%	N.	%
Physical	0	0	37	40.2	55	59.8	92	100
Psychological	5	5.4	86	93.5	1	1.1	92	100
Social	3	3.3	63	68.5	26	28.3	92	100
Financial	4	4.3	83	90.2	5	5.4	92	100
Spiritual	2	2.2	28	30.4	62	67.4	92	100
Total Quality of Life	0	0	80	87	12	13	92	100

Discussion

The participants' average age in the present study was 42.9±8.7. In a study conducted by Casso *et al* (2004) the average age of initial diagnose of breast cancer was 44.4 and age range of 40-49 [21]. 57% were married and 14%, 16%, and 13% were respectively single, widowed, and divorced. In a study administered by Bulotiene *et al* (2007) 56% of breast cancer patients were married and 44% were single, widowed, or divorced [22]. The results of various studies showed that avoiding marriage or marrying in old ages due to lack of pregnancy, first pregnancy in old ages, and reduction in total number of pregnancies caused breast cancer to increase [3-4].

The results of the present study showed that total quality of life in 87% of the patients was average and in 13% of them was high. Investigating different dimensions of life quality in the patients also indicated that the highest score of life quality was observed in spiritual and physical dimensions and the lowest in psychological and financial dimensions, which is in line with the results of the study conducted by Moshtagh Eshgh (2009) [23]. In their study in Bahrain, Jassim *et al* (2013) reported that life quality of those who had survived breast cancer was favorable, which was in its highest level in functional and social dimensions and lowest in emotional dimension [24]. In the present study, total quality of life in the patients who had undergone mastectomy surgery was average. In a study conducted by Gomez Rico *et al* (2009) the results of analyzing quality of life in two surgery methods of modified radical mastectomy (MRM) and breast conserving surgery (BCS) showed that there was a significant difference between the two groups regarding their functional dimension, self-image, and

perceptions of the future. Moreover, patients with BCD had higher total level of functionality and health. Therefore, their study indicates that losing breasts decreases quality of life in the breast cancer patients [26]. The results of the present study showed that the highest score of life quality was observed in age group of 40-49. In physical dimension, 74.2% of the women aged 20-39 had high quality of life which dropped with age increase. In addition, women aged 40-49 had a significantly better psychological and social status. In their study, Pandy *et al* (2005) reported that younger women with breast cancer had lower quality of life because they worried about losing their breasts or due to family and conjugal problems [25]. However, Pakins *et al* (2007) conducted a study on old women had survived breast cancer and concluded that age increase had a direct relation with depression increase, which finally affected their satisfaction with their lives and general health [26]. In their study, de Glas *et al* (2013) stated that old age caused a decrease in quality life in breast cancer patients [27]. These studies clearly indicate the effect of age at both ends of the age spectrum of the studied patients in the present study. In the present study, there was a significant relation between education and psychological dimension of life quality, such that in illiterate patients and those with university degrees, score of psychological status dropped. Gomez Rico *et al* (2009) stated that in patients' viewpoint, education had played an important role in initial diagnose of breast cancer because there was a significant relation between lower education level and acceptance of the physician's diagnose in order to perform MRM instead of BCS, which can indirectly influence quality of life [9]. In addition, Ahles *et al* (2005) stated that education had a close relation with the individual's financial-social status, which highly affects enhancing quality of life [29]. Quality of life had a inverse significant relation with the interval between cancer diagnose and treatment. In the study conducted by Huang *et al* (2013), it is also stated that early diagnose and treatment of breast cancer can improve the patients' life quality [30]. Regarding the relation between fatigue and dimensions of life quality, the results of the study showed that fatigue had a significant relation with physical health, such that patients with higher level of fatigue had more unfavorable quality of life. The results of the study conducted by Pakins *et al* (2007) also indicated that issues related to physical dimension of life quality such as fatigue and physical functioning had relation with quality of life. Moreover, the individual's daily functioning has a special importance in feeling of wellbeing and psychological improvement [26].

Conclusion

According to the results of the present study that indicate favorable quality of life in physical dimension and low quality of life in psychological dimension, applying psychiatric techniques and social-psychological support and above all establishing communication with mutual understanding and respect to the patient can play a key role in controlling the disease complications and treatment whereby quality of life rises. Utilizing methods like complementary medicine [31] and sufficient rehabilitation programs is necessary to remove limitation and enhance quality of life.

Acknowledgments

This paper is the result of a research conducted in Kashan University of Medical Sciences and Healthcare Services, code.8643. The authors want to thank all of the patients who participated in this study**.**

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