

Original Research Article

A study on quality of life in the breast cancer patients in tehran

Azar Nematollahi¹, Mandana Mir MohammadAli², Zohreh Montaseri³, Zahra Yazdan Panahi⁴, Bahar Morshed Behbahani⁵

^{1,3,4,5} Department of Midwifery, School of Nursing and Midwifery, Shiraz University of Medical Sciences, Shiraz, Iran

² Department of Midwifery, School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran

***Corresponding author**

Zahra Yazdan Panahi

Email: z_yazdanpanahi@yahoo.com

Abstract: Breast cancer is the most prevalent type of cancer among the women and may cause changes in the life quality of the women as well as their family members. The present cross sectional (descriptive-analytical) study was conducted on 100 women with breast cancer referring to the hospitals affiliated to Tehran University of Medical Sciences, Tehran, Iran in order to investigate their quality of life. The study data were gathered using information registration forms as well as QOL-BC questionnaire through interviews. In results According to the study results, most breast cancer women (66%) had average life quality. Regarding the dimensions of quality of life, 69%, 62%, and 73% of the patients had average physical health, psychological status, and social status, respectively. In addition, 86% of the women had strong religious beliefs. The results revealed a significant relationship between the quality of life and chemotherapy ($P=0.001$), axillary lymph node dissection ($P=0.05$), and number of chemotherapy cycles ($P=0.026$). However, no significant relationship was found between the quality of life and other demographic and disease variables, such as age and number of radiotherapies. Moreover, a significant relationship was observed between the psychological dimension of quality of life and the number of chemotherapy cycles ($P=0.026$) as well as economic status ($P=0.035$). In conclusion In spite of the existing treatments, little improvement has been observed in the survival rate of breast cancer patients. Therefore, identifying and eliminating such patients' psycho-social problems are of great importance in taking steps toward treatment of these patients.

Keywords: Quality of life, Breast neoplasms/therapy, Mastectomy, Chemotherapy, Radiotherapy.

INTRODUCTION

Nowadays, quality of life plays a major role in the clinical investigation of cancer patients because evaluating the quality of life can be highly effective in the treatment process as well as the prognosis of the patients. This issue is of utmost importance regarding the breast cancer patients [1, 2, 3]. Today, the number of the women with breast cancer is increasing around the world; such a way that almost 1.1 million women get infected by the disease and nearly 410,000 women die due to breast cancer every year [4]. Breast cancer patients not only encounter physiopathological changes, but they also experience psychological changes due to being faced with problems, such as unpleasant diagnostic methods, undesirable treatment methods, and progress of the disease [5].

In comparison to other types of cancer, diagnosing breast cancer is usually accompanied by more fear and distress and most studies have confirmed incompatibility as well as psychological mismatch in 1 out of every 3 women with breast cancer. Moreover, the

common treatments, such as surgery, hormone therapy, chemotherapy, and radiotherapy, lead to psychological and physiological changes and, consequently, affect the individuals' conception of the body as well as sexual function. Of course, younger women may not also be able to perform their social roles as successfully as before [2, 6].

Breast cancer is considered as a family disease because a woman, as a mother or spouse, plays a major role in the family and in case breast cancer progresses in a woman, other family members may also feel ill [7]. In general, social supports are strongly related to the consequences of life quality. In fact, the performance of the family is the most important source of support and higher levels of family performance; i.e., the extent to which the family members help and support each other, result in better compatibility with breast cancer [8, 9, 10,11].

Different studies have shown pain, fatigue, arm swelling, and post-menopause symptoms as the

most prevalent physical symptoms of the breast cancer patients, which can have negative effects on their quality of life [1]. In one study on physical and psychological problems of the patients undergoing mastectomy and receiving radiotherapy treatment in Tehran, pain and numbness in the operation site were the patients' most prevalent physical health problems (73.5%). In addition, psychological pressures led to decrease in physical activities and sexual disorders in 79.4% and 20.6% of the cases, respectively. Finally, regarding the social dimension, most patients (82.4%) had a strong tendency to take part in a support group [12]. Overall, psycho-social problems are highly prevalent after the diagnosis of breast cancer; however, limited information is available regarding the women's long-term compatibility with such problems, particularly in metastatic breast cancer. Although the more time passes from breast cancer diagnosis, the better the women's quality of life will be, some women may develop depression, distress, frustration, and stress; therefore, it is quite necessary to identify their needs [2].

Considering the increase in the prevalence of breast cancer and the effect of this disease on the patients' quality of life, treatment and healthcare staff, especially the midwives who have more relationship with women, should try to identify different aspects of such patients' life and eliminate their shortcomings and problems. Thus, the present study aims to comprehensively investigate physical, psychological, social, and religious dimensions of breast cancer patients' quality of life, the relationship between these dimensions, and the relationship between the demographic as well as disease variables and quality of life.

MATERIALS AND METHODS

The present cross-sectional study aimed to describe the features of physical, psychological, social, and religious dimensions of life quality and investigate the relationship between the demographic as well as disease characteristics and the quality of life as well as the relationship between different dimensions of life quality. The study sample size was determined based on the previous studies conducted on the issue and using the following formula:

$$n = \frac{S^2 \times Z^2 (12.36)^2 (1.96)^2}{(d \times X)^2} = \frac{12.36^2 \times 1.96^2}{(49.2 \times 0.05)^2} = 96 \sim 100$$

$$X = 49.2 \quad S = 12.36$$

This study was conducted on 100 women selected through purposive sampling from the patients with breast cancer who had referred to Imam Khomeini hospital complex affiliated to Tehran University of Medical Sciences for surgery, chemotherapy, or radiotherapy and were willing to take part in the research. This complex consists of Imam Khomeini and

Vali-e-Asr hospitals, cancer institute, medical imaging center, nuclear medicine center, and various research centers. It should be noted that these women did not suffer from metastatic breast cancer or any chronic or systemic diseases since they could affect their quality of life.

The study data were gathered using a questionnaire through interviews and considering the objectives of the study, the questionnaire was developed in two separate parts. The first part included the demographic as well as disease features, while the second section dealt with the dimensions of quality of life. The main part of the second section was based on the Quality of Life Breast Cancer (QOL-BC) questionnaire designed by the researchers of the National Cancer Institute, Hope, California. This questionnaire was obtained from the researchers through E-mail [14,13]. This questionnaire is used to investigate the life quality of the patients with breast cancer and includes 43 questions on physical, psychological, social, and religious dimensions. If necessary, some questions were also added to the questionnaire. The content validity of the questionnaire was confirmed by 15 faculty members of the School of Nursing and Midwifery and Teacher Training College. In addition, its reliability was obtained as 90% using the test-retest method.

The scores of the answers to the questions ranged from 0 to 10 representing the individuals' undesirable and desirable conditions, respectively. Finally, the sum of the scores obtained in the above-mentioned dimensions was used in order to determine the quality of life. Physical, mental, and social dimensions and quality of life based on mean and SD were categorized as inappropriate ($X-SD$), average ($X+SD$), and appropriate ($X+SD$). In addition, the religious beliefs dimension was classified as strong ($X+SD$) and weak ($X-SD$).

Then, the data were entered into the SPSS statistical software and analyzed through descriptive statistics, T-test, ANOVA, and Pearson correlation coefficient.

RESULTS

In this study, 43% of the patients were between 40-49 years old with the mean age of 45.96 years. Moreover, 79% of the subjects were married, 34% had primary education, 84% were homemakers, 56% had an average economic status, 74.28% had above 12 year old children, and 67.5% had single children. In addition, less than 2 years had passed from 73% of the patients' onset of disease and 23% of the women had undergone lumpectomy. In addition, 79%, 86%, and 50% of the patients had undergone

mastectomy, chemotherapy, and radiotherapy, respectively.

Regarding the dimensions of life quality, 69% of the women had average physical health ($X=93.73\pm 12.50$) (Table 1). In addition, the most prevalent physical problems which affected the women's quality of life were hair loss (55%), menstrual changes (45%), and fatigue (44%). Moreover, most of the patients (62%) had average psychological status ($X=98.69\pm 15.63$) (Table 1). Besides, the most prevalent psychological problems affecting the women's quality of life were fear from the recurrence or metastasis of the disease (88%) and psychological pressure at the onset of the disease (80%) as well as chemotherapy (78%). Furthermore, most of the women (73%) had average social status ($X=63.05\pm 8.85$) (Table 1) and the most common problems affecting their quality of life were the psychological pressure imposed on the family (97%) and costs of treating the disease (73%). Finally, 86% of the women with breast cancer had strong religious beliefs ($X=65.75\pm 4.53$) (Table 2) and most of them had obtained quite high scores for the questions on the religious beliefs (above 70%). Overall, most of the breast cancer patients (66%) had an average quality of life ($X=289.96\pm 22.19$) (Table 1).

Considering the relationship between the disease as well as demographic variables and the quality of life, a significant relationship was observed between

the quality of life and chemotherapy ($P=0.001$), axillary lymph node dissection ($P=0.05$) (Table 3) and number of chemotherapy cycles ($P=0.026$) (Table 4). However, no significant relationship was found between the quality of life and other disease as well as demographic variables, including age, level of education, husband's level of education, number of chemotherapy and radiotherapy cycles, length of the disease, economic status, marital status, number of single and married children, and number of below and above 12 year old children (Table 4). On the other hand, a significant relationship was found between the psychological dimension of life quality and the number of chemotherapy cycles ($P=0.026$) (Table 4) as well as the economic status ($P=0.035$) (Table 4).

Concerning the relationship between the 4 dimensions of life quality, the results revealed a significant relationship between physical health and psychological status ($P=0.006$), social status ($P=0.001$), and life quality ($P=0.000$). Nevertheless, no significant relationship was found between physical health and religious beliefs ($P=0.994$). A significant relationship was also observed between the psychological status and social status ($P=0.001$), religious beliefs ($P=0.001$), and quality of life ($P=0.000$). Moreover, the study findings showed a significant relationship between social status and religious beliefs ($P=0.017$) as well as the quality of life ($P=0.000$). Finally, a significant relationship was found between the religious beliefs and the quality of life ($P=0.000$) (Table 5).

Table 1. Absolute and relative frequency distribution of the breast cancer patients based on the physical health, psychological status, social status, and quality of life

	Physical health		Psychological status		Social status		Quality of life	
	Number =Percent	Mean± SD	Number =Percent	Mean± SD	Number =Percent	Mean± SD	Number =Percent	Mean± SD
Inappropriate	17	59.35±11.15	20	51.25±10.64	14	33.92±9.03	17	209.58±28.78
Average	69	93.73±12.50	62	98.69±15.63	73	63.05±8.85	66	289.96±22.19
Appropriate	14	122.35±6.60	18	141.77±11.11	13	84.00±3.80	17	349.05±13.89
Total	100	91.90±21.18	100	96.96±31.35	100	61.70±15.65	100	286.35±46.73

Table2. Absolute and relative frequency distribution of the breast cancer patients based on the religious beliefs

Religious beliefs	Number	Percent	Mean scores	SD
Weak	14	14.0	49.9286	7.6507
Strong	86	86.0	65.7558	4.5321
Total	100	100.0	63.5400	7.4690

Table 3. The results of the test on the relationship between the type of treatment and the quality of life

Type of treatment	yes		no		Test results the type of treatment and the quality of life
	Number	Percent	Number	Percent	
Lumpectomy	23	23.0	77	77.0	P=0.646
Mastectomy	79	79.0	21	21.0	P=0.379
Axillary lymph node dissection	68	68.0	32	32.0	P=0.05
Chemotherapy	86	86.0	14	14.0	P=0.001
Radiotherapy	50	50.0	50	50.0	P=0.981
Treatment with Tamoxin	35	35.0	65	65.0	P=0.990

Table 4. The correlation between some demographic and disease characteristics of the breast cancer patients and the quality of life as well as its four dimensions

Life dimensions quality Variable	Physical health	Psychological status	Social status	Religious beliefs	Quality of life
Age	R=-0.070 P=0.491	R=0.169 P=0.092	R=0.010 P=0.921	R=-0.087 P=0.391	R=0.035 P=0.727
Level of education	R=-0.152 P=0.132	R=0.082 P=0.415	R=-0.020 P=0.841	R=-0.069 P=0.498	R=-0.050 P=0.621
Husband's level of education	R=-0.112 P=0.059	R=0.203 P=0.070	R=0.010 P=0.928	R=0.071 P=0.526	R=0.010 P=0.931
Economic status	R=-0.056 P=0.578	R=0.211* P=0.035	R=0.154 P=0.126	R=0.112 P=0.266	R=0.148 P=0.143
Number of chemotherapy cycles	R=-0.168 P=0.101	R=0.239* P=0.026	R=-0.051 P=0.642	R=0.056 P=0.610	R=0.026 P=0.814
Number of radiotherapy cycles	R=-0.235 P=0.101	R=0.088 P=0.545	R=0.006 P=0.967	R=-0.074 P=0.0609	R=-0.063 P=0.663
Length of the disease	R=-0.166 P=0.100	R=0.033 P=0.745	R=-0.104 P=0.306	R=-0.084 P=0.406	R=-0.114 P=0.261

Table 5. The correlations among the four dimensions of life quality and the correlation between the four dimensions of life quality and quality of life

Dimensions of life quality	Psychological status	Social status	Religious beliefs	Quality of life
Physical health	R=0.270** P=0.006	R=0.324** P=0.001	R=-0.001 P=0.994	R=0.701** P=0.000
	Psychological status	R=0.330** P=0.001	R=0.315** P=0.001	R=0.754 P=0.000
		Social status	R=0.239* P=0.017	R=0.720** P=0.000
			Religious beliefs	R=0.395** P=0.000

*P<0.05

**P<0.01

DISCUSSION AND CONCLUSION

According to the results of the present study, most of the breast cancer patients had an average quality of life. Also, the women with breast cancer who had undergone radiotherapy but had not received nursing consultation had an average quality of life [15]. On the other hand, the African-American women with breast cancer had a relatively high quality of life [8].

This difference might be due to the difference in culture, the patients' length of disease, and the instruments utilized for assessing the quality of life. Moreover, 4 years had passed since diagnosis of cancer in the participants of Northouse's study and, consequently, the tension resulting from the diagnostic tests as well as the complications of treatment had improved and only a few of them had experienced the

recurrence of the disease. In the current study, however, less than 2 years had passed from the onset of the disease in 73% of the subjects and, as a result, they were still dealing with the treatment issues and their subsequent problems. Therefore, the mean of the patients' quality of life in this study was quite lower than that of Northouse's research. Furthermore, Northouse had utilized Fact-B version 3 presented by Cella *et al.*;

In another study, the mean of young (below 50) breast cancer patients' quality of life was quite higher than that of the present study [16], which might be due to the difference in culture, the subjects' age, and the instruments utilized for assessing the quality of life. That study was conducted on 101 women below 50 who suffered from breast cancer and their quality of life was assessed using Ferrans and Powers quality of life index-cancer version. In the current study, on the other hand, the subjects were from different age groups and their quality of life was evaluated through QOL-BC questionnaire presented by cancer researchers from Hope, California.

The results of the present study revealed a significant relationship between the quality of life and chemotherapy ($P=0.001$) as well as axillary lymph node dissection ($P=0.05$). In addition, the mean of life quality of the patients who had undergone 1 or 2 cycles of chemotherapy was quite higher than that of those who had not received chemotherapy and this difference was statistically significant ($P=0.011$). The effect of chemotherapy on the quality of life has been confirmed by other studies, as well [3].

In the same line, the results of another study showed that lymph node metastasis and cancer recurrence had caused a significant difference in the breast cancer patients' quality of life [8]. Besides, the patients who had experienced the recurrence of the disease had a lower life quality compared to the other patients, which is consistent with the findings of the present study [17].

Regarding the negative effect of chemotherapy on the breast cancer patients' quality of life, the findings of this study are in agreement with those of others studies [1,18,19]. In this study, a significant relationship was found between the economic status and psychological status ($P=0.0350$). In the same line, the results of one study showed that the economic problems resulting from the disease led to a decrease in the cancer patients' quality of life [20]. Also, one study showed a relationship between income and women's life quality and performance [21]. Hence, financial support seems to be effective in treating the women suffering from breast cancer and improving their life quality.

In the present study, disease had resulted in more belief in God and His prophets in most of the patients (94%). Similarly, receiving religious supports from priests or other religious activities helped the patients to continue their lives in another study [14]. Nevertheless, religious beliefs had caused no changes in some women's attitudes towards life [22]. This difference might be due to the various religious beliefs and attitudes of the patients in different studies.

CONCLUSION

Overall, the findings of the present study revealed the effect of cancer on the women's quality of life. Therefore, midwives can use the dimensions which had been affected more and the symptoms which had mostly affected the individuals' life as well as satisfaction in order to consult the women suffering from breast cancer and, consequently, play a major role in directing care programs for such patients in the health centers all over the country. In this way, they can also have a critical role in conducting the Women's Health Initiative which is one of the policies of the ministry of health.

Acknowledgements

Hereby, the authors would like to thank all the individuals who helped conduct this research. They are also grateful for Ms. A. Keivanshekouh at the Research Improvement Center of Shiraz University of Medical Sciences for improving the use of English in the manuscript.

Conflicts of interest: None declared

REFERENCES:

1. Montazeri A; Health-related quality of life in breast cancer patients: A bibliographic review of the literature from 1974 to 2007. *J Exp Clin Cancer Res.* 2008;27:32.
2. Jane L; Meisel Quality of Life in Long-Term Survivors of Metastatic BreastCancer: *Clinical Breast Cancer.* 2012; 12 (2) 119-126.
3. Penelope Hopwood, Haviland J, Mills J, Sumo G, Bliss JM; The impact of age and clinical factors on quality of life in early breastcancer: An analysis of 2208 women recruited to the UK START Trial (Standardisation of Breast Radiotherapy Trial): *Breast .* 2007; 16(3): 241-251.
4. Montazeri A, Vahdaninia M, Harirchi I, Ebrahimi M, Khaleghi F, Jarvandi S; Quality of life in patients with breast cancer before and after diagnosis: an eighteen months follow-up study . *BMC Cancer.* 2008; 8(1): 1.
5. Bruner, suddorth. *Medical surgical nursing.* 12 ed .Philadelphia: Lippincott co; 2010 ;378.
6. Dubashi B, Vidhubala E, Cyriac S, Sagar TG; Quality of life among young women with breast

- cancer: Study from a tertiary cancer institute in south India. *Indian J Cancer*. 2010;47(2):142-7.
7. Holmberg SK, Scott LL, Alexy W, Fife BL; Relationship issues of women with breast cancer. *cancer nursing* 2001; 24(1): 53-60.
 8. Northouse LL, Caffey M, Deichelbohrer L, Schmidt L, Guziatek-Trojniak L, West S *et al.*; The quality of life of African American women with breast cancer. *Research in nursing & health* 1999;22: 449-460.
 9. Farma KKF, Jalili Z, Zareban I, Pour MS; Life quality of the women with breast cancer. *Teacher Training University, University of Medical Sciences*, 2014, 3.
 10. Farma KKF, Jalili Z, Zareban I, Pour MS; Investigation of life quality in the women with breast cancer. *Islamic Azad University of Boroujerd*, 2014, 3.
 11. Samiei F; Investigation of the effect of consulting the family on the breast cancer patients' quality of life. *Teacher Training University*.
 12. Safavi Bayat Z; Investigation of physical and psychological problems of mastectomy patients referring to Tehran radiotherapy centers. M.Sc. thesis in nursing. *College of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran*, 1991.
 13. Ferrell BR, Grant M, Funk B, Otis-Green S, Garcia N; Quality of life in breast cancer. part I: physical and social well being. *Cancer nursing*. 1997; 20(6):398-408.
 14. Ferrell BR, Grant M, Funk B, Otis-Green S, Garcia N; Quality of life in breast cancer. part II: Psychological and spiritual well-being. *Cancer nursing*. 1998; 21(1):1-9.
 15. Bakhshi R; Investigation of the effect of nursing consultation on the life quality of the women with breast cancer undergoing radiotherapy in the cancer institute, Tehran in 1999.
 16. Sammarce A; Perceived social support, uncertainty, and quality of life of younger breast cancer. *cancer nursing* 2001; 24(4): 272-277.
 17. Lu W; Changes in quality of life among breast cancer patients three years post-diagnosis. *Breast Cancer Res Treat*. 2009;114(2):357-69.
 18. Hürny C, Bernhard J, Castiglione-Gertsch M, Coates AS, Peterson HF, Gelber RD *et al.*; Impact of adjuvant therapy on quality of life in women with node-positive operable breast cancer. *lancet Ltd*, 1996;347(9011): 1279-84.
 19. So WK, Marsh G, Ling WM, Leung FY, Lo JC, Yeung M, *et al.*; Anxiety, depression and quality of life among Chinese breastcancer patients during adjuvant therapy: *European Journal of Oncology Nursing*. 2010; 14 (1). 17-22.
 20. Meneses K, Azuero A, Hassey L, McNees P, Pisu M; Does economic burden influence quality of life in breastcancer survivors?: *Gynecologic Oncology*. 2012; 124 (3): 437-443.
 21. Wyate. G, Friedman L; physical and psychological outcomes of midlife and older women following surgery and adjuvant therapy for breast cancer; *oncol nurse forum*; 1999; 25: 887-895.
 22. Lanmark. Bjorg T; living with newly diagnosed breast cancer- the meaning of existential issues; *cancer nursing*; 2001; 24(3): 220-226.