RESEARCH ARTICLE

Investigating Sexual Function and Affecting Factors in Women with Breast Cancer in Iran

Fatemeh Homaee Shandiz[1], Fatemeh Zahra Karimi[2*], Nafiseh Rahimi[3], Mahboubeh Abdolahi[4], Zahra Khosravi Anbaran[2], Mina Ghasemi[2], Seyed Reza Mazlom[5], Aghileh Nasaghchi Kheirabadi[2]

Abstract

Background: Since the breast is strongly relevant to sexual desire, and physical and sexual attractiveness, the high prevalence of breast cancer (BC) in Iran and long-term survival of patients experiencing side effects means that measures to identify associated sexual problems are necessary. Therefore, this study was conducted to assess sexual function and affecting factors in women with BC. Materials and Methods: This cross-sectional study was performed on 94 women with BC, referred to Imam Reza (AS) Hospital, Mashhad, Iran, in 2014. The data were collected through demographic and clinical questionnaires and also a sexual function questionnaire and analyzed using SPSS version 16. Results: The total score of women's sexual function was about 24.3±4.41. Of the total, 63 (71.3%) reported sexual dysfunction, for example reduced satisfaction or more pain. Age was the only significantly related factor. Conclusions: Breast cancer can adversely affect women's sexual function and decrease quality of life. Thus, taking measures to overcome women's sexual problems are necessary.

Keywords: Sexual function - women - breast cancer - Iran

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Introduction

Breast cancer (BC) accounts for 23% of all newly diagnosed cancers and also 14% of cancer-related deaths in women and is the most common type of cancer in women (Entzar Mahdi et al., 2012; Jemal et al., 2010). Breast cancer has been a public health problem in developed countries in the past years and has become an urgent and important health problem in developing countries, as its incidence is increasing by 5% each year (Entzar Mahdi et al., 2012). Based on studies in Iran, BC accounts for 24.4% of all malignancies and the Ministry of Health and Medical Education reported it as the most common malignancy in women with an incidence of 6.36 per 1000 women (Mousavi et al., 2007). Iranian women are affected at least 10 years earlier than their western counterparts (Fasihi Harandy et al., 2012).

Breast is strongly associated with the identity of femininity, womanhood, sexual desires, physical and sexual attractiveness, therefore, the diagnosis and treatment of breast cancer can damage sexual function. Sexual function is an important part of life. Sexual activity and satisfaction are the most basic aspects of women's lives and disorders caused by surgical treatment, radiotherapy, chemotherapy or hormone therapy can result in sexual dysfunction and sexual dissatisfaction (Vaziri et al., 2014).

Sexual relationship is one of the major causes of marital happiness/satisfaction, and its dissatisfaction has a number of negative consequences and results in the feeling of depression and frustration, and can even lead to marital disruption (foroutan and jadid milani, 2009). Due to the limited number of studies on female sexual function in Iran, the role of sexual function in women's lives and in maintaining physical and mental health of individual and family, the importance of sexual problems in relationships between spouses, the high prevalence of BC in Iran, and long-term survival of patients with their further involvement in side effects and consequences of BC, taking measures to identify the sexual problems of patients are necessary. As healthcare providers would be more aware of the sexual difficulties and problems of these cancers. Furthermore, determining the sexual function of women with cancer can provide new solutions to healthcare providers to assist women with their problems.

Since, there had been no study conducted on sexual function in the city of Mashhad, the researchers decided

*[1]Cancer Research Center, Department of Radiotherapy, Ghaem Hospital, [2]Student Research Committee, [5]Evidence-Based Care Research Center, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, [4]Biostatistics, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, [3]Nursing, Birjand University of Medical Sciences, Birjand, Iran, *For correspondence: karimifz901@mums.ac.ir*

to investigate the sexual function and the factors affecting it in women with breast cancer.

Materials and Methods

This cross-sectional study was approved by the ethics committee of Mashhad University of Medical Sciences. The study population consisted of women with BC, referred to Imam Reza hospital (affiliated to Mashhad University of Medical Sciences) in Mashhad in 1393. The sampling was done using convenience sampling (Non-probability sampling). The study sample included 94 women with breast cancer which was estimated through an estimation formula with 95% Confidence level and 80% power of statistical test.

$$N=((z_{1-\alpha/2} + z_{1-\beta}) / c(r))^2+3$$
$$C(r)= ½ \log (1+r/1-r)$$

The inclusion criteria of the study were: 1. being Iranian and living in Mashhad city 2. being married, having at least primary education 3. Passing more than two months from the time of diagnosis 4. Not having any disease and malignancies except BC 5. Not using psychotropic medications 6. Not using drugs and having another stressful event (except cancer) in life over the past 6 months.

To collect data, eligible participants were selected through the interview questionnaire for study unit selection. After selecting the eligible participants, the aim of the study was explained to them. Their consents for taking part in the study were obtained. Furthurmore, they were ensured about the confidentiality of the information, and finally, the questionnaires were filled out by them in separate and quiet places.

The questionnaire number 1 consisted of four parts, Part I: Personal & Family information, Part II: Information on the history of pregnancy and childbirth, Part III: Information on clinical status.

The questionnaire number 2 was a 19-item Female Sexual Function Index-FSFI questionnaire to assess sexual function across six independent domains such as sexual desire, sexual arousal, vaginal lubrication, orgasm, satisfaction, and pain during intercourse. Scoring was performed according to the questionnaire scoring manual. As for vaginal lubrication, orgasm, and satisfaction indexes were 0.6, 0.4, and 0.3, respectively. The total score of each domain was achieved by summing the scores for all questions in each domain and multiplying by the correction factor of that domain. The scores for each domain were calculated separately. The final score is a sum of the 6 domain scores ranging from 2 (the lowest) to 36 (The highest). As higher scores indicate better sexual function. In this study, the cutoff point of 26.5 was used to detemine the sexual dysfunction as FSFI > 26.5 and FSFI≤ 26.5 indicated women with or without sexual dysfunction, respectively. Sexual function questionnaire (SFQ) is a general standard questionnaire, as its validity and also reliability with an internal consistency within the acceptable range (α ranging from 0.72 to 0.90) was approved in previous studies (Rosen et al., 2000; Wiegel et al., 2005; Fakhri et al., 2011). The data were analyzed using SPSS version 16. After entering the data into the SPSS software, descriptive and inferential statistic tests including central, dispersion (mean and standard deviation), and frequency distribution indices were used in the data analysis. Multiple linear regression and multiple logistic regression analyses were performed in order to evaluate the effects of confounding factors on sexual function. For all tests, the confidence and significance levels were set at 95% and 0.05, respectively.

Results

The findings showed that the mean age of women was 45.20±8.63. The primigravida and multigravida rates in women were about 1.1% and 97.9%, respectively. Regarding their literacy levels, 38.3% were illiterate or had elementary education, 20.2% had middle level of education, 41.5% had high school diploma and university degrees. Among the participants, 63.8% were housekeeper and 36.2% were employed. All the participants were receiving chemotherapy during the study period. In

Table 1. Characteristics of the Women (n =94)

Variables		Mean± Standard Deviation
Age		45.20 ± 8.64
Variables		Frequency (Percent) No. (%)
Employment	Housewife	60(63.8)
	Employed	34(36.2)
Education	Illiterate - Elementary	36 (38.3)
	Secondary	19(20.2)
	Higher	39(41.5)
Family income level (according to self-judgment)	Less than sufficient	39(41.5)
	Sufficient	55(58.5)
Social support	partner	81(86.2)
	children	13(13.8)
Surgery	Conservative	46(48.9)
	Mastectomy	48(51.1)
Radiotherapy	Yes	65(69.1)
	No	29(30.9)
Endocrine therapy	Yes	49(52.1)
	No	45(47.9)

Table 2. Mean and Standard Deviation Score of Total Sexual Function and its 6 Categories in Women

Variables		Mean ± sd
Score of total sexual function		24.34 ± 4.42
Area of sexual function		Mean ± sd
Sexual Desire		3.60±.85
Arousal		3.85±1.1
Lubrication		4.64±1.52
Orgasm		4.75±1.09
Satisfaction		5.09±1.14
Pain		2.39±1.54
Sexual Dysfunction	Yes	63(67)
	No	31(33)

Table 3. Results of Multiple Linear Regression Model for Determining Factors Related to Score of Total Sexual Function

Variables		B	P	95% CI
Age		-0.2	<0.0001	(-0.30-0.09)
Employment	Housewife	-	Ref.	-
	Employed	-0.56	0.56	(-2.48-1.35)
Education	Illiterate - Elementary	-	Ref.	-
	Secondary	-0.21	0.86	(-2.60-2.18)
	Higher	-1.04	0.35	(-3.26-1.18)
Family income level (according to self-judgment)	Sufficient	-	Ref.	-
	Less than sufficient	0.23	0.82	(-1.75-2.22)
Social support	partner	-	Ref.	-
	children	-0.29	0.83	(-2.98-2.41)
Surgery	Conservative	-	Ref.	-
	Mastectomy	-1.38	0.13	(-3.14-.39)
Radiotherapy	No	-	Ref.	-
	Yes	0.06	0.96	(-2.00-2.12)
Endocrine therapy	No	-	Ref.	-
	Yes	1.88	0.07	(-0.13-3.88)

Table 4. Results of Multiple Logistic Regression Model for Determining Factors Related to the Sexual Dysfunction

Variables		OR	P	95% CI
Age		1.16	< 0.0001	(1.07-1.25)
Employment	Housewife	-	-	-
	Employed	0.81	0.69	(0.27-2.38)
Education	Elementary	-	-	-
	Secondary	2.45	0.24	(0.55-10.89)
	Higher	1.54	0.51	(0.43-5.54)
Family income level (according to self-judgment)	Sufficient	-	-	-
	Less than sufficient	0.65	0.46	(0.21-2.02)
Social support	partner	-	-	-
	children	1.28	0.75	(0.29-5.76)
Surgery	Conservative	-	-	-
	Mastectomy	3.01	0.04	(1.06-8.54)
Radiotherapy	No	-	-	-
	Yes	1.27	0.69	(0.39-4.19)
Endocrine therapy	No	-	-	-
	Yes	0.38	0.11	(0.12-1.25)

addition, 52.1% (49 participants) of the women were receiving Tamoxifen treatment, 69.1% (65 participants) were receiving radiotherapy, and 48.9 (46 participants) had undergone mastectomy (Table 1).

The results showed that the total score of sexual function of women was 24.34±4.42. Among 94 women participated in this study, 63 women (67%) had sexual dysfunction, while, 31 women (32%) had no sexual dysfunction (Table 2).

Simultaneous multiple regression model was used to assess the factors affecting sexual function. The results of this model are shown in table 3. According to the results in table 3, there was only a significant difference between sexual function and age variable, as increasing one unit to the age vairable resulted in 0.20 decreases in the mean of suxual function score. But, there were no significant correlations between the other variables in the model (education, social status, occupation, family support, breast surgery, radiotherapy and hormone therapy variables) and the total score of sexual function.

To examine the factors affecting the sexual dysfunction, multiple logistic regression model was used to analyze the data. The results of this model are shown in Table 4 which shows significant differences between age (OR=1.16 , 95% CI: (1.07, 1.25) and breast surgery type variables (OR=3.01, 95% CI:(1.06, 8.54) and sexual dysfunction, while others such as education, social status, occupation, family support, radiotherapy and hormone therapy had no significant differences with sexual dysfunction. As one unit increase in age, increases the possibility of having sexual dysfunction by 0.16. Moreover, mastectomy increases the risk of sexual dysfunction by 3 times compared to the case in which the breast is preserved.

Discussion

The results of this study showed that 67% of women with breast cancer had sexual dysfunction. Dyspareunia and sexual desire had the lowest means among sexual fuction related domains. The results of a study by Zeighami Mohammadi on sexual function in women with breast, uterus, cervix, and ovaries cancers showed that 60% of the subjects had moderate, 28% mild and 12% severe dysfunctions. Regarding sexual dysfunction rate in various aspects, there were 61% and 55% dysfunction rates in sexual desires and sexual arousal, respectively (Zeighami Mohammadi and Ghaffari, 2009). Furthermore, Harirchi et al. (2012) reported 84% of sexual dysfunction in women participated in their study (Harirchi et al., 2012). In a study conducted by Sbitti (2011) on 120 women in Morocco, 84% of women had increase in sexual dysfunction and decrease in the quality of sexual life, 65% dyspareunia, 54% slippery vaginal dysfunction, 48% lack of sexual desire, 64% decrease in libido, and 37% lack of sexual satisfaction, 37% orgasmic dysfunction, 40% reduction in the frequency of sexual intercourse and 38% arousal dysfunction (Sbitti et al., 2011). Although, in the current study, there is a difference in the way of reporting the rates of various domains of sexual function from the above studies, as the dysfuntion rates of different domains are reported in average, but, in terms of the presence of sexual dysfunction is in consistent with these studies. The results of these studies indicated a relatively high prevalence of sexual dysfunction in these women. Understanding the known effects of these dysfunctions on a woman health fully justifies the importance of dealing with them.

In addition, our results showed that increase in age and mastectomy, increased sexual dysfunction; therefore, supporting the women at the risk of sexual dysfunction is recommended and based on affecting factors specific interventions should be provided for them. Harirchi et al. (2012) revealed that age is a risk factor in sexual dysfunction after treatment in women with breast cancer (Harirchi et al., 2012). Alicikus et al. (2009) reported that mastectomy resulted in decrease in libido in women

(Alicikus et al., 2009). Moreover, the results of a study by Khajehaminian et al. (2014) on the sexual experinces of women after mastoctomy surgery through qualitative method revealed that decrease in the quality and quantity of sexual relationship was one the postmastectomy changes, because losing part of breast, the feelings of

inadequacy, diminished or loss of femininity and decrease in the physical attractiveness due to the loss of a bio-psycho-socially valuable part, gradually, put the person in a vicious circle and affect the following experiences which result in sexual dysfunction over time (Khajehaminian et al., 2014). On the other hand, mastectomy can result in negative changes in body image, low self-esteem and sense of femininity and sexual dysfunction. Regardless of independent effects of biological and psychological factors on the reduction and loss of sexual desire, they have a linkage and interaction with each other which results in stable changes in individuals' sexual functions.

According to results of this study, providing sexual education, promoting it and referring women with sexual dysfunction to a psychologist are recommended to the centers providing healthcare services to women with breast cancer. Because diagnosing sexual dysfunction and

identifying the factors affecting this problem, can help solving women's problem and improve it. Furthermore, it is recommended that other researchers use longitudinal studies during post-treatment follow-up period and also interventional studies to evaluate the effect of sexual consultation on sexual function in order to obtain precise conclusions on sexual function in women with breast cancer and its related factors.

In conclusion, Our results showed a high prevalence of sexual dysfunction in women with breast cancer. Therefore, it is recommended to merge sex consultation with breast cancer care in order to enhance the quality of breast cancer care in this group of women.

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