Original Article

Sexual Dysfunction in Women with Breast Cancer Receiving Chemotherapy

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Abstract

Introduction: Therapies in breast cancer especially chemotherapy has severe negative effects on patients' sexual life and quality of life.
Aims: To determine the frequency of sexual dysfunction and factors affecting sexual dysfunction in women with breast cancer receiving chemotherapy.
Methods: The study included 118 women who receiving chemotherapy. After demographic characteristics, sexual function was evaluated by using The Female Sexual Function Index assessing sexual desire, arousal, lubrication, orgasm, satisfaction, and pain during sexual intercourse.
Results: Most of patients had sexual dysfunction. Sexual dysfunction was observed as significantly higher in the presence of older age (P=0.001), chronic disease (P=0.004), not receiving sexual counseling (P=0.001) and notifying affected sexual life after treatment (P=0.017).
Conclusions: This study revealed that breast cancer patienst in Turkey experience various sexual problems following chemotherapy treatment. Sexuality –related information should be provided to all patients and their partners, regardless of patients age, as a part of routine treatment information giving.

Key words: Breast Cancer; Chemotherapy; The Female Sexual Function Index; Nursing

Introduction

Cancer is a serious illness that has extremely negative effect on patients'lives and quality of life. Many cancer, such as breast, ovarian, and uterine, have a direct effect on women's sex organs, and much is written about the sexuality of women with these cancers (Barton-Burke&Gustason, 2007).The treatments also involved with any given cancer have the potential to alter sexual function. Surgery, chemotherapy, radiation and biotherapy are known to contribute to sexual dysfunction in a variety of direct and indirect ways. Chemotherapeutic agents have side effects that can either directly or indirectly affect sexuality and sexual function (Barton-Burke&Gustason, 2007; Fobair & Spiegel, 2009). Cytotoxic chemotherapy can affect female fertility as well as function. Direct damage to the ovaries may induce a premature menopause. Other side effects of chemotherapy include the masculizing or feminizing effects of treatment, which can alter one's libido (Wilmoth & Ross, 1997; Knobf, 2001; Schultz et al. 2005; Knobf, 2006). Many agents affect sexuality indirectly because of their side-effect profile; examples include nausea, vomiting, and alopesia (Barton-Burke&Gustason, 2007; Fobair & Spiegel, 2009).

The percentage of patients reporting sexual problems varied from 50 % to 56 % in 4 studies, leaving 44% to 50% of the breast cancer survivors less affected (Fobair et al. 2006; Bloom et al.,2004; Bukovic et al. 2004; Bukovic et al., 2005). In Turkey, Aygın & Aslan (2008) found that sexual dysfunction was 57.9 % in patient with breast cancer receiving surgery, chemotherapy, radition and hormonal treatments. Research about sexuality in women with cancer who have received treatment with chemotherapy or radiation therapy has focused on pain, fatigue, weight gain, nause and vomiting, and alopecia,

anyor all of which can make a woman feel less sexually attractive (Wilmoth, 2001). Treatment sequelae may contribute to psychological reactions such as depression that may be associated with a decrease in sexual drive. Medications may affect sexual functioning and reponsive (Barton et al., 2004; Wyatt et al., 2005).

Most of health professionals do not feel that they were prepared to cope with sexual changes after cancer treatment. Currently, assesment and counseling around sexual issues are not integrated into routine care, despite patients' desires and needs. Also Physicians and patients do not know who should be initiating these conversations. Epidemiological studies regarding the prevalence of sexual dysfunction among women in developing countries are scarce, owing to cultural and religious values, inadequate sex education, and restricted discussion with health professionals about sexual problems (Park, Norris & Bober, 2009). Sexual dysfunction can have a major impact on quality of life. Therefore, sexual dysfunction should be assess and implement necessary intervention in women with breast cancer before, during and after chemoterapy treatment.

The aim of this study was to determine the frequency of sexual dysfunction and factors affecting sexual dysfunction in women with breast cancer receiving chemotherapy.

Methods

Research questions

The research questions were as follows :

- What is the sexual dysfunction prevelance of patients with breast cancer?
- What are the socio- demographic and illness –related characteristics of patients with breast cancer?
- Do socio-demographic and illness related variables influence the mean sexual dysfunction scores of patients with breast cancer?
- Are there correlation between sexual dysfunction and age, duration of disease?

Sample, setting and ethical considerations

The study was planned as a descriptive type of study for the purpose of determining the factors affecting sexual function with breast cancer survivors. There were 130 patients receiving chemotherapy in the outpatient chemotherapy department at the time of the study. Twelve of these patients declined to participate in the study. The final group was composed of 118 patients. Therefore the response rate was 90.7%. The study was drawn from the outpatient chemotherapy department attached to the oncology unit of a large university hospital in Izmir.

A convenience sample of patient was obtained from all patients who were receiving chemotherapy in the outpatient chemotherapy unit. To be included in the study patients met the following criteria a) were being married b) having at least primary education, c) passing moe than two months from the time of diagnosis d) not having any disease and malignancies except breast cancet e) able to speak, read, write Turkish language f) not suffer from auditory or visual impairment, g) were sexually active e) was willing to participate to study.Participants who had no sexual activity within the past month were excluded from the study.

The study was approved by the ethics committee of the local university's school of nursing, and written consent to undertake the study was also obtained from the institutional review board of the hospital concerned.

Instruments

The following tools were used in this study

A ***personal information form*** developed by the researchers and contained questions regarding: respondents' socio-demographic and medical characteristics, perceived changes of the sexual life with their partner before diagnosis and treatment (three point likert scale ; decreased, increased and not change) .

The Female Sexual Function Index (FSFI) (Rosen et al., 2000) is a brief, 19-item self-report measure of female sexual function that provides scores on six domains of sexual function as well as a total score.

They include: desire (2 items), arousal (4items), lubrication (4 items), orgasm (3 items), satisfaction (3 items), and pain (3 items).

Total score was obtained by adding the six domain scores and was calculated multiplying the sum by the domain. Factors were 0.6 for desire, 0.3 for arousal and lubrication, 0.4 for orgasm, satisfaction and pain. There for total score range was 2 to 36. Total score >22.7 was considered as a normal female sexual function, and total score ≤ 22.7 was considered as sexual

dysfunction. Response options were on a Likert-type scale ranging from 1 to 5 for items 1, 2, 15, and 16. For all other items, the range was from 0 to 5 withthe supplementary option ‘‘no sexual activity.’’ In addition tothe separate domain scores, the FSFI provides an overall score for sexual functioning.FSFI was adapted for Turkish populations by Aygın & Aslan (2008) whose study demonstrated a Cronbach’s alpha of .98 for total score.

Data collection and analysis

Patients attending the outpatient chemotherapy department were informed about the aims and objectives of the study and if they expressed an interest in participating, the researcher provided either verbal or written information about the study as requested. Each of the participants signed a written consent form prior to participation in the study. The “*Personal Information Form” and “**The Female Sexual Function Index (FSFI)”*** were filled out by them in separate and quite places

Data were analyzed using “Statistical Package fort he social Sciences” (SPSS version 11.0). Descriptive statistics (mean, Standard deviations, percentages) were used to describe the overall sample characteristics in terms of demographic, disease –related, and treatment –related variables. Student’s *t* test, One-way analysis of variance (Anova) were used to compare the differences between sexual dysfunction score and socio-demographic, medical variables and risk factors. Pearson correlation analysis was used to examine relationship between sexual dysfunction and age, duration of disease.

Results

Personel and disease related characteristics

Socio-demographic characteristics of 118 patients are presented in Table 1. The mean age of patients was 47.74 ± 7.27. Less than half of the patients (36.4 %) had completed their secondary school education. Sixty-nine percent of the participants had an income equal to their expenses. Most of the patients were on menopause period at the time of the study.

The distribution of the patients’ disease –related characteristics in shown in Table 2. Thirty-six percent of patients had been ill for 6 month or less and most of the patients (86.4%) didn’t had a chronic disease. At the time of the data collection, twenty-six percent (n=31) of the subjects had a family history of breast cancer. Also as shown in Table 2, although most patients’ (88.1 %) sexual life was affected after their breast cancer diagnosis and treatment, they didn’t receive sexual consultancy (97.9 %) and psychological support (75.4 %) for their sexual problems.

Table 1: Socio-demographic characteristics

	n	%
Age (year)		
39 age and under	17	14.4
40-49 age	50	42.4
50 age and over	51	43.2
Education level		
Primary school	35	29.7
High school	43	36.4
University	40	33.9
Perceived income level		
Income less than expenses	23	19.5
Income equal to expenses	81	68.6
Income higher than expenses	14	11.9
Mensturation status		
Menopause	101	85.6
Normal	17	14.4

Table 2: Disease- related factors and sexuality characteristics

	n	%
Duration disease		
6 month and under	43	36.4
7-12 month	26	22.0
13-24 month	22	18.6
25 month and over	27	22.9
Stage of disease		
I. Stage	10	8.5
II. Stage	40	33.9
III. Stage	9	7.6
IV. Stage	3	2.5
Not known	56	47.5
Family history of breast cancer		
Yes	31	26.3
No	87	73.7
Chronic disease		
Yes	16	13.6
No	102	86.4
Sexual life after diagnosis (self report)		
Affected	104	88.1
Not affected	14	11.9
Sexual consultation		
Yes	6	5.1
No	112	97.9
Psychological support for sexual problem		
Yes	29	24.6
No	89	75.4

Table 3: Impact of sociodemographic, disease related and sexuality characteristics on sexual functıon (Total score)

	n	Mean (SD)	t value/ F ratio	*P* value
Age (year)				
39 age and under	17	17.0 (2.72)	7.166	0.001*
40-49 age	50	13.0 (5.61)		
50 age and over	51	11.1 (6.25)		
Education level				
Primary school	35	12.1(5.95)	0.325	0.723
High school	43	13.1 (5.88)		
University	40	13.0 (5.96)		
Perceived income level				
Income less than expenses	23	11.82 (6.16)	0.390	0.678
Income equal to expenses	81	13.0 (5.95)		
Income higher than expenses	14	13.0 (5.33)		
Mensturation status				
Menopause	101	12.5 (5.94)	-.933	0.353
Normal	17	14.0 (5.58)		
Duration disease				
6 month and under	43	13.2 (5.77)	0.850	0.469
7-12 month	26	13.5 (5.71)		
13-24 month	22	13.0 (4.85)		
25 month and over	27	11.2 (6.97)		
Stage of disease				
I. Stage	10	12.3 (5.49)	0.932	0.448
II. Stage	40	13.8 (4.72)		
III. Stage	9	13.6 (8.00)		
IV. Stage	3	15.8 (0.89)		
Not known	56	11.8 (6.43)		
Chronic disease				
Yes	16	8.87 (6.00)	-2.961	0.004*
No	102	13.4 (5.66)		
Sexual life after diagnosis (self report)				
Affected	104	12.3 (5.94)	-2.430	0.017*
Not affected	14	16.3 (4.22)		
Sexual consultation				
Yes	6	16.9 (1.94)	4.550	0.001*
No	112	12.5 (2.06)		
Psychological support for sexual problem				
Yes	29	13.0 (6.47)	0.243	0.809
No	89	12.7 (5.73)		

Sexual dysfunction in patient with breast cancer

Based on the total sexual function score, 116 (% 98.3) out of 118 women had sexual dysfunction. Sexual dysfunctions were detected as arousal problem in 115 (% 97.5), desire problem in 111 women (%94.1),lubrication problem in 105 (%89.0), pain problems in 98 women (%83.1), unsatisfaction in 85 (% 72) and orgasm problems in 35 (% 29.7).

FSFI scores and personel/disease related characteristics

To investigate various factors that may cause female sexual dysfunction, no significant differences were detected in education level (*P*=0.723), mensturation status (*P*=0.353), duration of disease (*P*=0.469) and stage of illness (*P*=0.448). However sexual dysfunction was observed as significantly higher in the presence of older age (*P*=0.001), chronic disease (*P*=0.004), not receiving sexual counseling (*P*=0.001) and notifying affected sexual life after treatment (*P*=0.017) (Table 3).

Relationship between FSFI scores and personal/disease characteristics

No statistically significant relationship was found between FSFI score and duration of illnness (r=-.120, *P*=0.19). There was a statistically significant relationship between FSFI score and age (*r*=-0.324, *P*=.000).

Dıscussıon

Research regarding the sexual dysfunction on women breast cancer in Turkey is extremly scarce. Also, the sexual impact of having cancer and its treatments have long been a taboo topic in clinical settings in Turkey. This study is aimed at exploring the sexual dysfunction rate and related factors of sexual dysfunction in patients with breast cancer receiving chemotherapy.

Cancer patients report that they seldom remember discussion sexual risks before treatment or treatment options for sexual dysfunction after treatment. In a small focus group study in the United states of women's experiences after cancer therapy for breast and gynecologic malignancies, all participants expressed that their sexual concerns were not adressed (Bruner & Boyd, 1999).

The survey revealed that most of the patients had sexual dysfunction. It is also noteworthy that nearly 98 % of respondents had not consulted anyone about their sexual concerns despite the fact that most of those reported sexual changes. This result is consistent with previous researches, which found that most patients who receive breast cancer treatment experienced sexual dysfunction (Takahashi et al ,2008; Sbitti et al, 2011; Shandiz et al, 2016). Barni & Mondin (1997) conducted a study with 50 breast cancer survivors in Italy;10 % of these women had talked to a doctor about sexual disorders that may arise as a result of treatment. A recent multicenter study ithe United Kingdom of the informational needs of 394 cancer patients revealed that only 37% of respondents recalled having discussions about sexual well-being with any member of their multidisciplinary care team (Butler et al.,1998). Therefore, it is especially important for healthcare providers who see women with breast cancer receiving chemotherapy in Turkey to assess sexual function before, during and after treatment and to provide sexuality-related information to patients and their partners and to actively explore their sexual problems, because many of them are hesitant to raise sex-related concerns in clinical settings.

In this sample education level, mensturation status, duration of disease and stage disease had no impact on sexual dysfunction. This result is consistent with the findings of a past study (Sbitti et al, 2011; Shandiz, 2016).

In this study, we found statistically significant correlation between the presence of sexual dysfunctions and age.Sbitti et al. (2011) found that age had no impact on sexual dysfunction reported by breast cancer patients. Takahashi et al (2008) found that age was not significantly correlated with the change in frequency of sex. It can be seen that contradictory results were found concerning correlation age and sexual dysfunction. It is therefore important for healthcare professonals to provide information about sexual changes after chemotherapy as a part of routine information giving to a demographically wide range of patients, not selecting them based on their age. Cultural issues in our society, such as the myth that women with breast cancer are no longer interested in sexuality and intimacy, and the presumption that issues of survival overshadow sexuality, provide barriers to open communication about sexuality in women breast cancer. Sexuality in the patient with breast cancer needs to be adress by the

nurse irrespective of the woman's age, partnership, and disease status. Knowledge related changes in a woman's sexuality and intimacy after the management of breast cancer are explored, and strategies are provided for the nurse to use in communicating openly about sexuality in the clinical setting. Also, we suggest that further research is needed in the future.

This research has a number of limitations. First the participant of this study comes from one oncology center in western region. Therefore we can not generalize the results of this study to all women with breast cancer in Turkey. Second, In this study, the participants were receiving chemotherapy. We need to conduct a prospective study in order to determine effects of other therapies (such as, radiation, surgical treatment, target and hormonal treatment) on sexual functions of women with breast cancer. Lastly, this study did not collect information of samples' physical symptoms (alopecia, nausea, vomiting etc) and psychosocial status (depression and anxiety). We need to investigate the sexual impact of breast cancer taking into account the these status.

Despite these limitations, we believe that this study provides important data regarding the sexual dysfunction rate and related-factors of sexual dysfunction in Turkish women with breast cancer receiving chemotherapy. In order to develop and provide effective support for this group, we need to make more research that explore the physical and psychosocial situations relating to sexual changes following breast cancer treatment. Most of all,nurses and other health care providers need to acknowledge sexuality as an important aspect of quality of life of the people with cancer.

Conclusions

In conclusion, most of participant experience sexual dysfunction after chemotherapy whereas they avoid discussing it with members of the health care team also fail to discuss it with patients most of the time. Therefore, oncology teams should initiate communication about sexual difficulties, perform comprehensive assessments, and educate and counsel patients about the management of these difficulties. Education of patients after treatment is of great importance, and every patient should be offered consultation regardingsex life, together with their partners. In order to deal with women's sexual issues appropriately, it is important to prepare a secure environment in the clinical settings to discuss sexual problems with patients and their partners.

Acknowledge ment

The authors thank all patients who participated in this study.

References

Barton-Burke M & Gustason CJ (2007) Sexuality in women with cancer. In: Wilmoth MC, ed. Nursing Clinics of North America, Sexuality and Chronic Illness: Assessment and Intervention, W.B. Saunders Company,Philidelphia.

Fobair P & Spiegel D (2009) Concerns about sexuality after breast cancer. The Cancer Journal 15:19-26.

Schultz PN, Klein MJ, Beck ML, Stava C & Sellin RV (2005) Breast cancer: relationship between menopausal symptoms, physiologic health effects of cancer treatment and physical constraints on quality of life in long-term survivors. Journal of Clinical Nursing 14: 204-211.

Wilmoth MC & Ross JA (1997) Women's perception. Breast cancer treatment and sexuality. Cancer Practice 5: 353-359.

Knobf MT (2001) The menopausal symptom experience in young mid-life women with breast cancer.Cancer Nursing 24:201-210; quiz 210-1.

Knobf MT(2006) Reproductive and hormonal sequelae of chemotherapy in women. Cancer Nursing 29: 60-65.

Fobair P, Stewart SL, Chang S, D'Onofrio C, Banks PJ & Bloom JR (2006) Body image and sexual problems in young women with breast cancer.Psychooncology 15: 579-594.

Bloom JR, Stewart SL, Chang S & Banks PJ (2004) Then and now: quality of life of young breast cancer survivors.Psychooncology 13:147-160.

Bukovic D, Fajdic J, Strinic T, Habek M, Hojsak I & Radakovic N (2004) Differences in sexual functioning between patients with benign and malignant breast tumors.Collegium Antropologium 28:191-201.

Bukovic D, Fajdic J, Hrgovic Z, Kaufmann M, Hojsak I &Stanceric T (2005) Sexual dysfunction in breast cancer survivors. Onkologie 28: 29-34.

Aygın D & Aslan FA (2008) Study of sexual dysfunction in women with breast cancer. The Journal of Breast Health 4:105-114.

Wilmoth MC (2001) The aftermath of breast cancer: an altered sexual self.Cancer Nursing, 24:278-286.

Barton D, Wilwerding M, Carpenter L & Loprinzi C (2004) Libido as part of sexuality in female cancer survivors.Oncology Nursing Forum 31: 599-609.

Wyatt GE, Loeb TB, Desmond KA & Ganz PA (2005) Does a history of childhood sexual abuse affect sexual outcomes in breast cancer

survivors?Journal of Clinical Oncology 23:1261-1269.

Park ER, Norris RL & Bober SL (2009) Sexual health communication during cancer care barriers and recommendations. The Cancer Journal 15: 74-77.

Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R, Ferguson D & D'agostino R (2000) The female sexual function ındex (FSFI): A multidimensional self-report ınstrument for the assessment of female sexual function. Journal of Sex & Marital Therapy 26:191-208.

Bruner DW & Boyd CP (1999) Assessing women's sexuality after cancer therapy: checking assumptions with the focus group technique. Cancer Nursing 22: 438-447.

Takahashi M, Ohno S, Inoue H, Kataoka A, Yamaguchi H, Uchida Y, Oshima A, Abiru K, Ono K, Noguchi R & Kai I (2008) Impact of breast cancer diagnosis and treatment on women's sexuality: a survey of Japanese patients.Psychooncology 17: 901-907.

Sbitti Y, Kadiri H, Essaidi I, Fadoukhair Z, Kharmoun S, Slimani K, Ismaili N, Ichou M & Errihani H (2011) Breast cancer treatment and sexual dysfunction: Moroccan women's perception. BMC Womens Health 3:11-29.

Shandiz FH, Karimi FZ, Rahimi N, Abdolahi M, Anbaran ZK, Ghasemi M,Mazlom SR & Kheirabadi AN (2016) Investigating sexual function and affecting factors in women with breast cancer in Iran. Asian Pasific Journal of cancer Prevention 17: 3583-3586.

Barni S & Mondin R (1997) Sexual dysfunction in treated breast cancer patients. Annals of Oncology 8: 149-153.

Butler L, Banfield V, Sveinson T & Allen K (1998) Conceptualizing sexual health in cancer care.Western Journal of Nursing Research 20:683-699.