Original Article

Eur J Breast Health 2020; 16(1): 48-54
DOI: 10.5152/ejbh.2019.4969

Examination of Sexual Quality of Life and Dyadic Adjustment among Women with Mastectomy

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ABSTRACT

Objective: To investigate the effect of mastectomy on sexual quality of life and dyadic adjustment among women with breast cancer.

Materials and Methods: This study was carried out in an analytical and retrospective way by comparing women with mastectomy and the control group who had similarities to this group and did not have breast cancer. The study included 88 women who underwent mastectomy surgery at least 1 year and at most 5 years ago and 88 women who did not undergo mastectomy with matching ages and levels of education. The data were collected using the "Individual Characteristics Form", "Sexual Quality of Life-Female", and the "Dyadic Adjustment Scale" for women with and without mastectomy.

Results: In both groups sexual quality of life and dyadic adjustment were positively correlated. Sexual quality of life and dyadic adjustment of women with mastectomy were significantly lower compared to the control group. It was found that sexual quality of life improved as the education level of women with mastectomy increased. Also, sexual quality of life and dyadic adjustment were significantly higher in women with mastectomy whose income was equal to or greater than their expenditures compared to those with income lower than expenditures.

Conclusion: Sexual quality of life and dyadic adjustment of women with mastectomy are low than women without mastectomy. Nurses should to assess the risk of low dyadic adjustment and sexual quality of life, educate and consultant women on how they can maintain healthy sexual relationships and dyadic adjustment with their spouse after mastectomy.

Keywords: Breast cancer, mastectomy, sexual quality of life, dyadic adjustment

Cite this article as: Telli S, Gürkan A. Examination of Sexual Quality of Life and Dyadic Adjustment among Women with Mastectomy. Eur J Breast Health 2020; 16(1): 48-54.

Introduction

Breast cancer is the type of cancer most frequently seen among women both in the world and in Turkey (1) and its prevalence is increasing every year (2). The incidence of breast cancer in Turkey was 39 per hundred thousand in 2010 (2), increased to 43.8 per hundred thousand in 2015 (3). Although the number of women surviving from breast cancer increases with early detection and treatment options (4) cancer detection remains a disease that may affect psychosocial functionality even years after the end of medical treatment and threaten life (5).

Although breast conserving surgery is the most preferred surgical method for early-stage breast cancer in Turkey, modified radical mastectomy is common performed with various reasons such as the size or position of the tumour among others (6). Mastectomy which causes a permanent change in the appearance of women (7), may bring about fear, uncertainty, depression, and anxiety (5) as well as problems as to body image, sexual functioning, and close relationships for both of the spouse (5, 7, 8). Therefore, mastectomy has been not only described as a woman's illness but as a partner illness because of it causes serious threats for both woman and their partners (9).

The breast is perceived in Turkey and many other cultures as the principal symbol of femininity and sexuality. Mastectomy threatens the attractiveness and sexual desirability as well as the identity of woman (9). This contributes to the altered of body image, reduction of self-esteem, the lack of desire for sexual activity, low libido, and depression (10). Negative body image has strong effects on psychosocial adjustment and social functioning. On the other hand, iatrogenic menopause (low libido, vaginal lubrication, dyspareunia, and loss of sensitivity in breasts that were sensitive before) can impair sexuality considerably (5). Also, psychosocial problems such as depression and anxiety also contribute to sexual problems (11). Moreover, in our society in which sexuality is a taboo, the belief that women who

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Received: 26.04.2019
Accepted: 20.08.2019
Available Online Date: 05.12.2019

are fighting breast cancer will no longer interested in sexuality might prevent women from communicating on this matter, causing further sexual problems to be experienced (12).

Sexuality is the way an individual expresses their sexual assets (9) and it is an important determinant of the quality of relationship between couples (13). Sexual problems are common in women with breast cancer (8), which may negatively affect the satisfaction of the relationship between the couples (7, 8, 14). On the other hand, the quality of the relationship between couples in women with breast cancer is also a strong determinant of sexual functioning (15). Poor communication between the couples about low self-esteem and altered body image after mastectomy may leads to unresolved marriage conflicts and even divorces (9). In addition, loss of role in home or work due to illness, interruption of relationships and becoming dependent or fears about life may cause deterioration in close relationships and marriages (10, 16, 17). Research findings indicate couples a range of communication, intimacy and sexuality concerns which greatly impacted their interactions with each other (17).

In Turkey, although there are studies focusing on body images (7, 14) and sexual problems (11, 18) of women with mastectomy, in a limited number of studies have examined sexual functionality and couples' adjustment (19). Because mastectomy is considered as a couples' illness (9), there is need for further studies in order to understand the sexual quality of life and dyadic adjustment following mastectomy and to intervene to couples in coping with cancer. This study examined the couple adjustment and the quality of sexual life of women with mastectomy compared to women who did not undergo mastectomy.

Materials and Methods

This analytical and retrospective study was carried out in the breast polyclinic of a training hospital in Istanbul between June 2016 and January 2017. The inclusion criteria were being aged between 18 and 65, having a diagnosis and treatment at least 1 year and at most 5 years ago, not being in menopause, being in complete remission (the status of being in remission was determined according to the file information and physicians' statements), not having cancer treatment except for tamoxifen (Tamoxifen; CP Pharmaceuticals Ltd., Wrexham, England), not having breast reconstruction, being married or living with a partner, not having a treatment history due to other types of cancers, not having a medical or mental disorder disrupting the functionality of the husband and/or women, and volunteering to participate to study. Women who received systemic treatment such as chemotherapy were not included in the study.

The sample consisted of 88 women with mastectomy who met the inclusion criteria (mastectomy group) and 88 women without a diagnosis of breast cancer who were matched with the mastectomy group on the basis of age and level of education (control group). The records of women who had mastectomy in the last five years in the surgical service of the institution where the study was conducted were examined. A total of 169 women with mastectomy were determined who met the study inclusion criteria. We excluded six patients for they were deceased, five patients for they did not agree to participate, 11 patients for they could not be reached, and 59 patients for they did not meet the study inclusion criteria. Consequently, 88 women with mastectomy whose followed in the breast polyclinic were included in the study. The control group consisted of 88 women without a diagnosis of breast cancer who applied to the breast polyclinic, who were matched with the mastectomy group on the basis of age and level of education, and who agreed to participate. In this group, 12 women rejected to participate and were not included in the study as they gave up filling in data collection forms five women.

In this study excluded age and menopause, which are known to affect breast cancer, and treatments used in breast cancer that have systemic effects due to the effects of mastectomy on sexual quality of life and couple adjustment. Women with mastectomy were compared to women in the control group that did not have breast cancer in order to minimize the differences that might arise in the variables of sexual quality of life and couple adjustment before and after the surgery.

Measures

The data were collected using the "Individual Characteristics Form", the "Sexual Quality of Life-Female (SQOL-F)", and the "Dyadic Adjustment Scale" for the mastectomy and control groups.

Individual Characteristics Form: This form consisted of common questions for women in both the mastectomy and control groups (age, level of education, marital status, employment status, income status, number of children) and questions related to medical treatment such as the time of breast cancer diagnosis, the time of surgery, the duration since the surgery, whether tamoxifen treatment was implemented, and whether chemotherapy and radiotherapy were implemented until 1 year ago.

Sexual Quality of Life-Female (SQOL-F): The sexual quality of life of women was measured using the Turkish version (20) of the SQOL-F, which was developed by Symonds et al. (21) in 2005. The sexual quality of life of women for the past 4 weeks was investigated using this scale, which can be used as a valid and reliable measurement tool for women aged 18-65. For the scale, consisting of 18 items, the scores of the items 1, 5, 9, 13, and 18 were reversed before calculating the scale items, which were scored between 1 and 6. The total score to be obtained from the scale was converted to 100. The formula [(raw score of the scale - 18) x 100/90] was used for this conversion. High scores indicate a good sexual quality of life (20). Cronbach's alpha value of the Turkish version of the scale was 0.83 (20). In this study, Cronbach's alpha value of the scale was 0.81."

Dyadic Adjustment Scale (DAS): The dyadic adjustment of the women was measured using the Turkish version (22) of the DAS, developed in 1976 by Spainer (23). The DAS, which was developed in order to measure the properties of dyadic relationships perceived by couples, consists of 32 items and 4 subscales. These are dyadic satisfaction, dyadic cohesion, dyadic consensus, and affectional expression. Of 32 questions that form the scale, 30 are Likert-type questions with 5 to 7 options. These questions have options varying from "always" to "never" and scores between 0 and 6. The other 2 questions, on the other hand, can be answered by "yes" or "no" and are scored as 0 or 1. The range of scale scores is between 0 and 151. High total scores indicate that the relationship of the individual or dyadic adjustment is good (22). The Cronbach's Alpha value of the scale, in study which was adapted to Turkish by Fışıloğlu (22), was 0.92. In this study, Cronbach's Alpha value of the scale was 0.82.

The women in the mastectomy and control groups who met the study inclusion were first informed about the study. In order to achieve consistency in data collection, all the scales (including the items) were read out loud to the participants by a single researcher in face-to-face interviews. The participants completed all the scales, which took approximately 10-15 min.

Permission was obtained from the Marmara University Ethical Committee (28.03.2016/3) and the administration of the institution in which the study was carried out (13.04.2016/1600095081) prior to the study. Also, consent was taken from the authors of the Turkish versions of the SQOL-F and DAS. All the participants gave their written informed consent to participate in the study. The principles of the Helsinki Declaration were followed during the study.

Statistical Analysis

The Statistical Package for Social Sciences version 15.0 (SPSS Inc.; Chicago, IL, USA) for Windows Evaluation Version was used for data analysis (Contract Number: GS-35F-5899H). The suitability of the data for normal distribution was analyzed with Shapiro Wilks test. The individual characteristics of the groups were calculated using descriptive statistics (ratio, mean, standard deviation, median, minimum-maximum). The chi-square test was used for the compared of the individual characteristics of groups. The t-test for normal distribution data and Mann Whitney U test for non-normal distribution data was used in compare the mean scores obtained from the scales. The association between scale scores was tested Pearson's correlation analysis for normal distribution data and Spearman correlation analysis for non-normal distribution data. The statistical alpha significance level was accepted as $p<0.05$.

Results

The mean age was 46.8±5.5 (range, 33-55) for women with mastectomy and 45.7±6.2 (range, 35-55) for women in the control group.

Table 1. Individual characteristics of the groups (n=176)

	Mastectomy group (n=88) n (%) or Mean (SD)	Control group (n=88) n (%) or Mean (SD)	p
Age (year) (min.-max.)	46.8±5.5 (33-55)	45.7±6.2 (35-55)	0.234
Age groups			
30-39	11 (12.5)	18 (20.5)	
40-49	44 (50)	36 (40.9)	
≥50	33 (37.5)	34 (38.6)	0.286
Education level			
≤Primary education	58 (65.9)	69 (78.4)	
≥Secondary education	30 (34.1)	19 (21.6)	0.543
Employment status			
Working	9 (10.2)	10 (11.4)	
Not working	79 (89.8)	78 (88.6)	0.100
Income status			
Less than revenue	42 (47.7)	36 (40.9)	
Equivalent to income and more	46 (52.3)	52 (59.1)	0.677
Child presence			
No	2 (2.3)	3 (3.4)	
Yes	86 (97.7)	85 (96.6)	0.684

Table 2. Comparison of the mean scores of the groups from sexual quality of life and dyadic adjustment scales (n=176)

	Mastectomy group (n=88)		Control group (n=88)		
	Mean±SD	Median (min-max)	Mean±SD	Median (min-max)	p
SQLQ total score	43.3±29.4	37.7 (0-100)	80.1±21.4	87.7 (5.5-100)	<0.001
DAS total score	98.5±28.8	102 (13-148)	123.8±22.6	129 (53-151)	<0.001
Satisfaction	34.1±9.7	36.5 (0-48)	41.4±6.6	43 (15-50)	<0.001
Cohesion	13.2±6.1	12.5 (0-24)	18.7±4.6	20 (6-24)	<0.001
Consensus	44.2±13.5	47.5 (3-65)	54.3±11.6	57 (20-65)	<0.001
Affectional expression	6.9±3.4	7 (0-12)	9.3±2.7	10 (0-12)	<0.001

SQLQ: Sexual Quality of Life Questionnaire; DAS: Dyadic Adjustment Scale

Also, 55.7% of women with mastectomy and 68.2% of women in the control group were primary school graduates and all of them were married. The individual characteristics of women in both groups were presented in Table 1. No statistically significant difference was found between the groups in terms of individual characteristics (p>0.05).

When the clinical characteristics of women with mastectomy were examined, it was found detection of cancer approximately 32.4±20.8 months ago and they underwent operation approximately 30.7±20.9 months ago. Of these women, 89.8% (n=79) received chemotherapy (75%) and radiotherapy (69.3%) apart from surgical treatment and 38.6% (n=34) used tamoxifen.

Table 3. Association between the scores from the sexual quality of life and dyadic adjustment scales in the groups (N=176)

	Mastectomy group (n=88)					Control group (n=88)				
	SQL	DA	S	CH	CN	SQL	DA	S	CH	CN
Dyadic Adjustment (DA)	0.457†					0.500†				
Satisfaction (S)	0.267*	0.867†				0.414†	0.837†			
Cohesion (CH)	0.383†	0.813†	0.620†			0.388†	0.799†	0.544†		
Consensus (CN)	0.476†	0.928†	0.681†	0.658†		0.433†	0.959†	0.698†	0.717†	
Affectional expression (AE)	0.538†	0.861†	0.681†	0.717†	0.771†	0.625†	0.798†	0.596†	0.542†	0.758†

SQL: Sexual Quality of Life; DA: Dyadic Adjustment; S: Satisfaction; CH: Cohesion; CN: Consensus; AE: Affectional expression
*Correlation is significant at the 0.05 level (2-tailed). †Correlation is significant at the 0.01 level (2-tailed)

Table 4. Scores of women with mastectomy from sexual quality of life and dyadic adjustment scales according to their individual and clinical characteristics (n=88)

Individual and clinical characteristics		Sexual quality of life		Dyadic adjustment	
	n	Mean±SD	p	Mean ± SD	p
Age groups					
<50 age	55	44.37±30.63	0.935	97.90±31.30	0.861
≥50 age	33	43.42±27.97		99.18±25.74	
Education level					
<Primary education	58	36.54±28.10	0.002	98.17±26.74	0.718
≥Secondary education	30	56.5±28.02		99.40±33.35	
Employment status					
Working	9	61.60±37.70	0.092	107.00±30.65	0.298
Not working	79	41.28±27.96		97.63±28.83	
Income status					
Less than revenue	42	33.35±26.05	0.003	88.90±30.55	0.004
Equivalent to income and more	46	52.50±29.74		107.43±26.61	
Number of children					
≤2	57	46.60±28.59	0.096	97.40±29.80	0.268
≥3	29	37.08±29.64		99.75±28.02	
Time after diagnosis of cancer					
≤2 year	43	47.51±29.40	0.203	99.16±27.55	0.770
≥3 year	45	39.40±29.35		98.04±30.58	
Time after surgery					
≤2 year	49	46.36±29.40	0.301	99.08±26.25	0.626
≥3 year	39	39.59±29.56		97.97±32.42	
Tamoxifen use					
Use	34	40.35±28.98	0.466	98.26±29.69	0.830
Disuse	54	45.26±29.92		98.79±28.80	

The comparison of the scores of the participants from sexual quality of life and dyadic adjustment scales were presented in Table 2. The total mean scores for both sexual quality of life and dyadic adjustment were significantly lower among women with mastectomy than in the control group ($p<0.001$). Dyadic adjustment subscale mean scores also were significantly lower among women with mastectomy than women without mastectomy ($p<0.001$).

The association between the scores obtained from the scales was investigated for each group and the results were given in Table 3. It was found that there was a positive correlation between sexual quality of life and couple adjustment in both groups.

When the scores that women with mastectomy obtained from the SQOL-F and DAS were compared according to their individual and clinical characteristics, no statistically significant difference was observed except for the level of education and income status ($p<0.05$) (Table 4). In the assessment performed according to the level of education, women with an educational level of secondary school and above had higher scores for sexual quality of life than women with an educational level of primary school and below (56.5±28.02 against 36.54±28.10, respectively) ($p=0.002$). When compared to those whose income was lower than their expenditures, the women whose income was equal to or greater than their expenditures had significantly higher scores of both sexual quality of life (33.35±26.05 against 52.50±29.74, respectively) and dyadic adjustment (88.90±30.55 against 107.43±26.61, respectively) ($p=0.003$ and $p=0.004$, respectively).

Discussion and Conclusion

The aim of the present study was to determine whether mastectomy affected sexual quality of life and dyadic adjustment and to investigate the effects of individual characteristics of women with mastectomy on sexual quality of life and couple adjustment. Therefore, this study excluded age, menopause, and systemic treatments such as chemotherapy, which could affect sexual functionality apart from mastectomy. Furthermore, the study did not have a prospective design and the sexual quality of life and dyadic adjustment of the women at the time of the implementation were assessed. The study included women without a breast cancer diagnosis matched in age and level of education in order to have information as to these parameters before mastectomy and to determine changes that might have emerged after the surgery.

The study findings showed that mastectomy negatively affected sexual quality of life and dyadic adjustment. In the literature, although there are other studies that support present study findings but there are studies that do not support them. In studies focusing on sexual functions in women with breast cancer, it was reported that sexual functions of women with mastectomy were considerably affected compared to healthy women and they experienced problems such as dislike of sexual intercourse, decline in sexual desire, and difficulties in sexual arousal (8, 19). Burwell et al. (8) found that though sexual problems declined in time after mastectomy, they continued 1 year after the surgery. Similar results are reported in studies focusing on dyadic adjustment in women with mastectomy. Uçar et al. (7) and Al-Ghazal et al. (24) determined that mastectomy affected couples' adjustment negatively compared to healthy women. Fobair et al. (10) found that women aged below 40 experienced more problems related to body image and increased couple maladjustment.

In the present study, sexual quality of life and couple adjustment were assessed separately in each group. A positive correlation was determined between sexual quality of life and couple adjustment in both groups, implying that individuals with a high sexual quality of life had a higher couple adjustment or vice versa. This finding is similar with the literature which shows dyadic adjustment affects sexual functionality and sexual functionality affects dyadic adjustment (13, 15). In a study which was carried out to investigate the effects of the surgery type in breast cancer on body image, sexual functions, self-esteem, and dyadic adjustment reported that mastectomy disrupted body image and disrupted body image caused decline in sexual satisfaction and dyadic adjustment (19). Moreover, the authors of the present study emphasized the surgery type alone did not affect dyadic adjustment and the effect of dyadic adjustment and sexual adjustment on each other was more significant. These results indicate that it is important to assess sexual relationships and/or relational satisfaction and dyadic adjustment as well as physical and emotional requirements related to medical treatment while planning the care towards women with mastectomy and to address these during interventions towards couples in coping with cancer.

Another point investigated in the study was the effect of individual characteristics of women with mastectomy on sexual quality of life and dyadic adjustment. The study findings showed that the education level of women with mastectomy influenced sexual quality of life. Women with mastectomy with an educational level of secondary school and above had higher sexual quality of life than women with an educational level of primary school and below. Similarly, Aygin et al. (18) found that women with breast cancer with a low educational level experienced more sexual dysfunctions, Sertöz et al. (19) that sexual functionality increased as the level of education rose, and Huguhet et al. (25) that the level of education affected sexual life and university graduates had better sexual lives than primary school graduates. This might be because health perceptions of individuals get better as the level of education increases and these individuals do not stick to family/social value judgments in sexual matters and sexual myths.

Furthermore, similar to other studies (7, 26), the findings of this study showed that both sexual quality of life and dyadic adjustment were significantly better in women with mastectomy whose income was equal to or greater than their expenditures compared to those with income lower than expenditures. This might be because having a regular job and planning life according to a certain wage leads to having fewer worries about life and coping with the process of illness and treatment easier in financial terms. On the other hand, there are other studies reporting the income level do not affect sexual functions (27).

The literature reports varying results for the relationship between age and dyadic adjustment among women with mastectomy. Uçar et al. (7) reported that women with mastectomy aged 50 and above had lower dyadic adjustment, while Engel et al. (28) stated young women with mastectomy had better dyadic adjustment. Avis et al. (29) reported women with mastectomy aged over 50 had better dyadic adjustment. The findings of the present study showed that age did not have any effects on dyadic adjustment and sexual quality of life. There is a need for comprehensive studies investigating the effect of age on dyadic adjustment and sexual quality of life in women with mastectomy.

There are certain studies in the literature indicating that the number of children affects sexual dysfunction (12, 30). This may be due to the fact that a woman who has had multiple births gets physically exhausted and cannot spend sufficient time for herself, time spent for the husband decreases, and also because of the drawbacks of having

breast cancer. However, the findings of this study showed the number of children did not affect sexual quality of life and dyadic adjustment.

The findings of the present study are consistent with the literature results showing that the duration after the diagnosis of cancer and surgery in women with mastectomy did not affect sexual quality of life and dyadic adjustment (7, 14, 25). This may be associated with the fact that women with mastectomy included in the study received the diagnosis of cancer approximately 32 months ago and had surgery about 30 months ago, and in time they came to terms with the illness and returned to their daily lives. Additionally, the present study revealed that the use of tamoxifen did not affect sexual quality of life and dyadic adjustment, which is similar to the findings of previous studies (7, 11, 14). On the other hand, some studies report hormone therapy affects sexual functionality (31).

In conclusion, the findings of the study showed that sexual quality of life was directly associated with dyadic adjustment and that women with mastectomy had lower sexual quality of life and dyadic adjustment compared to women without mastectomy. Also, it was seen that sexual quality of life improved as the education and income level of women with mastectomy increased. It is important that nurses assess the psychosocial requirements of women with mastectomy with a holistic approach and implement nursing interventions towards providing information giving emotional and social support about this issue. Certain coping mechanisms towards couples might be helpful in increasing the mechanisms to cope with mastectomy and maintaining a close relationship. Nurses should to assess the risk of low dyadic adjustment and sexual quality of life and educate women on how they can maintain healthy sexual relationships with their spouse and to direct couples to such interventions as marriage counseling or dyadic counseling after the surgical procedure. Furthermore, extensive studies on the issue are recommended.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Marmara University (28.03.2016/3).

Informed Consent: Written informed consent was obtained from patients who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - S.T., A.G.; Design - A.G., S.T.; Supervision - A.G., S.T.; Resources - S.T., A.G.; Materials - S.T., A.G.; Data Collection and/or Processing - S.T.; Analysis and/or Interpretation - A.G., S.T.; Literature Search - S.T., A.G.; Writing Manuscript - A.G., S.T.; Critical Review - A.G., S.T.

Acknowledgement: The authors wish to thank all the participants of this study.

Conflict of Interest: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

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