

## Effect of Group Counseling Based on Problem-Solving Solution on Women's Sexual Function, Quality of Life and Sexual Satisfaction after Mastectomy

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### Abstract

**Background:** Breast cancer is the most common disease in women, and it poses risks to a wide range of areas of a person's health, including their mental and physical health, their sexual function, and their sexual happiness. **Aim:** Evaluate the Effectiveness of Group Counseling Based on Problem Solving on Sexual Function, Quality of Life and Sexual Satisfaction of Women After Mastectomy. **Methods:** Quasi - experimental research design (Pre-test and post-test) was used in this study. It was conducted at outpatient clinic of the South Egypt Cancer Institute, Assiut University. **Sample:** a purposive sampling of 50 participants after mastectomy were included in the study. Four tools were used: structured interview questionnaire, Female Sexual Function Index, Married Women's Sexual Satisfaction Scale and Medical Outcomes Study 12-Item Short-Form. **Results:** The findings from this study showed a significant improvement in the means score of the total and scores of all domains of sexual function and quality of life after intervention. Also, the findings of the present study showed a significant difference in the increase of sexual satisfactions among women undergoing mastectomy surgery after intervention. **Conclusion:** Sexual counseling was statistically increasing the mean score of sexual function, sexual pleasure, and quality of life. **Recommendations:** A randomized controlled trial on continuing sexual health counseling programs for breast cancer survivors with a large sample is recommended.

**Keywords:** Breast cancer, Mastectomy, Problem-solving, Sexual Function, Quality of Life, Sexual satisfaction, Group counseling, Women.

### Introduction

Breast cancer, accounting for roughly one-fourth of all cancer cases, making it the most common cancer in women. Breast cancer affects over 1.5 million women annually, striking a rate of eight out of ten of them. In addition, breast cancer has the highest death rates among women. due to a lack of awareness, postponement of screening, and cultural beliefs, breast cancer is typically diagnosed in its advanced stages as a result, a mastectomy accounts for 81% of breast cancer surgeries. Women who undergo a mastectomy experience diminished sexual attraction and loss of femininity affecting a person's health, both physical and mental (Bray et al., 2020).

Women may feel fear, anxiety, or depression in response to breast cancer (Fazel et al., 2018). The emergence of certain factors, such as the possibility of physical deformity, discomfort, insufficient social and financial assistance, the erosion of female identity and

sexual drive, reduced social engagement, concerns about an uncertain future, the likelihood of disease relapse, and mortality, contribute to the patient's perception of this diagnosis (Shayan et al., 2017).

Loss or deformity of one or both breasts, scarring from surgery and baldness, are among the significant changes that can occur to women who have undergone mastectomy. These changes in physical appearance cause women to feel less beautiful, despise how they look, and refrain from interacting with other people (Mofrad et al., 2021). Women's mental health suffers when their sexual attraction declines; and when physical problems like early menopausal symptoms and libido reduction are combined, the mental health of these women will deteriorate (Panjari, 2019).

Female sexual dysfunction (FSD) is a problem that is increasingly being recognized. During sexual engagement, women may experience problems with their sexual desire,

arousal, lubrication, orgasm, satisfaction, or discomfort (Safdar et al., 2019). A lack of femininity or attractiveness, emotional fallout, and concerns about how one's partner or relationship will be impacted are all associated with sexual changes (Ussher, 2020). Sexual dysfunction may then continue for more than a year after diagnosis of breast cancer. Chemotherapy maybe. reasons for all sexual issues, such as diminished libido, cravings, excitement, vaginal dryness and pain during intercourse (Fahami et al., 2021).

Mastectomy-related effects on sexuality can be better understood in order to develop a personalized treatment plan and provide postoperative psychological care (Khatcheressian, 2021).

Sexual dysfunction is experienced by 30% to 100% of women with breast cancer as a result of their therapy. In terms of their sexual functioning, breast cancer survivors (BCS) perform worse than women who have never had cancer. Among the most often reported problems are anorgasmia (16–36%), dyspareunia (35–38%), decreased sexual arousal or vaginal lubrication (20–48%), and decreased sexual desire (Fazel et al., 2018).

Sexual satisfaction is a complex concept that encompasses both emotional and physiological aspects of sexual life. It involves embracing both positive and negative emotions after sexual intercourse (Chen, 2019). Consulting services can help patients relax, provide critical settlement advice, and support their emotions. Group counselling, a two-way interaction, can help improve sexual function and satisfaction (Nezu et al., 2021). Problem-solving treatments, such as internet-based cognitive behavioral therapy, can be used to support cancer patients in developing solutions to their challenges. These methods can help improve sexual dysfunction and overall well-being for individuals undergoing treatment (Scott & Kayser, 2019).

Cognitive therapy is a treatment approach that focuses on problem-solving and cognitive restructuring to address dysfunctional thoughts about sexuality. This approach can be used for individual or group therapy, and is based on cognitive behavior therapy. It involves cognitive-behavioral processes that bring about

diverse alternative responses, increasing the likelihood of choosing the best and most effective solution. The benefits of problem-solving include improved coping skills, stress management, and active cooperation between patients and therapists. Patients take an increasingly active role in planning and performing activities between treatments sessions, making problem solving treatment. a short, structured psychological intervention. Couples often receive sex therapy as part of their treatment plan (Mofid et al., 2021; Hucker & McCabe, 2021).

### **Significant of the study**

Breasts are crucial for controlling physiological functions, breastfeeding, sexual function, energy, and maintaining women's attractiveness and beauty. Loss of breasts can lead to a loss of femininity. Mastectomy impacts sexual function and is a major source of preoperative anxiety for women. Mastectomy operations significantly influence women's perception of sexuality, body image, and femininity (Türk & Yılmaz, 2020). In Egypt, 68.9% of women experienced sexual problems, and 76.9% of normal females reported one or more sexual dysfunction problems after mastectomy (Bray et al., 2020).

Face-to-face sexual counselling is a useful treatment for sexual dysfunction, which is a common and persistent side effect of Mastectomy and its treatment. However, few women choose it due to its upsetting nature. Group problem solving, due to its simplicity, accessibility, and anonymity, is a more acceptable strategy. Recent studies have shown the effectiveness of group problem solving in enhancing sexual functioning in the general public. The goal of the current study is to determine whether a group problem solving can help Mastectomy survivors who are having issues with intimacy and sexuality (Heravi et al., 2019).

### **Aim of the study**

To evaluate the effectiveness of group counseling based on a problem-solving solution on women's sexual function, quality of life and sexual satisfaction after mastectomy

### **Research hypothesis:**

H0: Group counseling based on a problem-solving solution, has no effect in improving women's sexual function, quality of life and sexual satisfaction after mastectomy.

H1: Group counseling based on a problem-solving solution will improve women's sexual function, quality of life and sexual satisfaction after mastectomy.

### **Patients and methods:**

#### **Study design:**

Quasi - experimental research design (Pre-test and post-test) was used in this study.

A pretest-posttest design aims to establish a cause-and-effect relationship. In quasi-experimental (pretest-posttest) research design, intervention is provided to the same group of patients, there is no random assignment, which makes the approach optimal in a field setting.

#### **Setting:**

The research was carried out in an outpatient clinic at the South Egypt Cancer Institute, which was working 5 days a week from Sunday to Thursday and provide services to cases that came from both rural and urban areas at Assiut governorate and other different governorate in Upper Egypt.

#### **Patients:**

50 participants with a diagnosis of breast cancer were included in the study; they were selected using a purposive sampling. Married women with nonmetastatic breast cancer diagnoses, who were sexually active in the previous four weeks, consented to participate in the study and age more than 18 years were the inclusion criteria. The current study does not include chronic illnesses, mental disorders, antidepressant users, vaginal bleeding, pelvic discomfort, painful genital lesions, severe ailments other than breast cancer, or failure to attend counseling sessions.

#### **Sampling and sample size estimation:**

According to a study by Arafa & Hassan (2013), the baseline quality of life score was  $40.4 \pm 9.5$ , while the post-intervention score was  $46.1 \pm 10.4$ . A sample size of 42 participants was needed to detect the difference in means between related groups with 95% power, 5% significance,

and 0.57 effect size. The number was raised to 50 to account for dropout and nonresponse. The sample size was calculated by G\*Power (3.1.9.7).

#### **Tools of the study:**

##### **Tool (1): socio-demographic characteristics and medical data:**

Included age, marital status, residence, women's job, women education, husband education, marriage duration, number of children and stage of breast cancer.

##### **Tool (2): Female Sexual Function Index (FSFI):**

The FSFI designed by Rosen et al. (2000), is a reliable and valid tool for assessing female sexual dysfunction. The assessment comprises 19 items that evaluate female sexual function across six domains: arousal, lubrication, orgasm, satisfaction, pain, and sexual desire. The overall score is the aggregate of the scores in all domains. The items are evaluated using a Likert scale ranging from 1 to 5. The highest achievable score is 36, and any score lower than 28 indicates an undesirable sexual function. Anis et al. (2008) translated FSFI from English to Arabic. The Arabic Version's study reported a high level of test-retest reliability, with correlation coefficients ranging from 0.92 to 0.98. Additionally, Ahmed et al. (2022) found that the Arabic-translated version of the test demonstrated good reliability, with a correlation coefficient of 0.81. The current study used The Arabic Version of FSFI.

##### **Tool Reliability**

The internal consistency of the tool scale was calculated by using Cronbach's  $\alpha$  coefficient for FSFI was 0.82 among women diagnosed with breast cancer.

##### **Tool (3): Married Women's Sexual Satisfaction Scale:**

The MWSSQ, developed by Hahvari et al. (2015), is a reliable and valid instrument used to assess the level of sexual satisfaction among married women. The assessment comprises 27 items that evaluate sexual satisfaction across four domains: antecedents of sexual satisfaction (8 items), physical and mental obstacles to sexual satisfaction (9 items), dominant cultural values

(5 items), and factors related to the husband (5 items). The sexual satisfaction questionnaire was assessed using a five-point Likert scale, where a score of one indicated "never" and a score of five indicated "always". The scores for items 3, 6, 9, 10, 14, 19, 21, 23, 24, and 27 were reverse scored, meaning that a response of "never" was assigned a score of five, while a response of "always" was assigned a score of one. The overall score varies between 27 and 135, with higher scores indicating a higher level of sexual satisfaction. The initial MWSSQ Cronbach alpha value of 0.92 demonstrated satisfactory reliability.

### **Tool Reliability**

The internal consistency of the tool scale was calculated by using Cronbach's  $\alpha$  coefficient for the MWSSQ in women with breast cancer was 0.84.

### **Tool (4): Medical Outcomes Study 12-Item Short-Form (MOS SF-12)**

With 12 items divided into eight categories, this validated questionnaire assesses general health-related quality of life. The physical component summary (PCS) and mental component summary (MCS), the two primary scores, are calculated independently by the manual. The SF-12's international normal standard curve, which has an average of 50 and a SD of 10, is compared to this score. A higher summary score suggests a better subjective PCS- or MCS-related QOL. The current study used the Arabic Version of SF-12 Translated questionnaire by Al-Shehri et al (2008). Cronbach alpha = 0.84 for the Arabic version suggested acceptable reliability. Cheng et al. (2016) used the SF-12 to analyze breast cancer survivors across various age groups.

### **Tool Reliability**

The internal consistency of the tool scale was calculated by using Cronbach's  $\alpha$  coefficient for PCS- and MCS-related QOL were 0.79 and 0.81, respectively.

### **Tools Validity**

Tools were reviewed by a panel of 3 experts in the field of obstetrics & gynecological and Psychiatric nursing and medicine for clarity and comprehensive.

### **Pilot study**

A pilot study was carried out on 10% (5) women according to the inclusion criteria of women who were undergone mastectomy to test the clarity and feasibility of the tool. After conducting the pilot study there weren't any modifications on the tool and so the sample was included in the total sample.

### **Administrative design**

This study was conducted with the agreement of the Ethical Committee of the Faculty of Nursing at Assiut University. Additionally, official authorization was received from the head of the South Egypt Cancer Institute. Each participant provided informed permission, and strict measures were used to ensure anonymity. The participant had the freedom to withdraw from the research at any point.

### **Overview of the counseling program**

The study program was completed from the end of September 2023 to the end of December 2023. The participants were divided into five groups, with each group including 10 persons. The lessons were placed twice a week, lasting for one hour each. In all, there were six sessions, including five instructional sessions and one evaluation session (first interview session). The duration of the all-health education program sessions is roughly 6 hours. Every session consisted of a lecture accompanied by supplementary resources, such as films and PowerPoint presentations, group discussions, and instruction on relaxation techniques. The components of group counseling sessions for sexual function, sexual satisfaction, and quality of life of women after mastectomy are flexible and responsive to the changing needs and preferences of the group members, and delivered in a culturally sensitive and responsive manner. The sessions should be designed to promote empowerment, resilience, and self-determination, and to provide a safe and supportive environment for group members to share their experiences and concerns.

### **Phases of counseling program**

This study program was created by the researchers following a three-month assessment of relevant literature. The program has four

ideas. The first meeting was used to introduce group members, establish group norms, identify group members' expectations and goals for the group, and provide psycho-education about mastectomy and its impact on sexual function, sexual satisfaction, and quality of life. The second idea was used to teach women how to deal with stress. They learned how worry can hurt their physical and mental health after having a mastectomy and then were taught skills like diaphragmatic breathing. The women were also given a guide to help them practice at home. Meditation was another method that was shown and talked about. Also, they taught about other coping skills, practice communication skills, such as active listening and discuss sexual myths and misconceptions. The third concept developing problem-solving strategies, provide support for women based on problems experiencing by the group members, discuss Self-Acceptance of the body Image, involving partners of group members to enhance intimacy and communication with partners. Meanwhile, the fourth concept focused on trauma-informed care and follow-up of the program evaluating the effectiveness of the interventions and the progress made by group members towards their goals, identify any unmet needs or concerns and provide referrals to other services if necessary.

**The program was developed in the following stages:**

1. Assessment phase (pre-intervention phase): This phase was designed to examine sexual function, stress, quality of Life and satisfaction levels among women undergoing mastectomy.
2. Program content consideration: During this phase, the program approach (time, number of sessions, and teaching approach) was discussed. The facilities and teaching location were assessed for adequacy and suitability. The South Egypt Cancer Institute's appropriate training room served as the venue for the program's instructional sessions. The program's content schedule is displayed (**Table 1**).
3. Implementing the program: During the evaluation session, the researchers assigned the women into five groups. Initially; they interviewed them individually to gather demographic, clinical data and assess their stress, sexual function & satisfaction levels after mastectomy. To ascertain how well they understood the ideas of the previous session, a report on the assignment outcomes was given at the following session.
4. Follow up, evaluation of the program's impact and referral to other services when needed:
5. Using the same evaluation instruments, the women were interviewed and evaluated immediately, two weeks and one month after the conduct of sessions to evaluate the health education program's outcomes, to evaluate stress and sexual function & satisfaction levels using the same assessment tools. Also, Referral to other services such as medical care, physical therapy, or individual counseling if necessary.

**Table 1: Schedule of group counseling sessions based on problem-solving on sexual function, sexual satisfaction and quality of life of women after mastectomy**

Session	Topic	Contents
1	Introduction and Psycho-education	<ul style="list-style-type: none"> <li>• Introduce group members and establish group norms</li> <li>• Determining group members' expectations and goals for the group</li> <li>• Providing information about the physical and psychological effects of mastectomy on sexual function, sexual satisfaction, and quality of life. This help women understand and normalize their experiences and reduce anxiety and distress.</li> </ul>
2	Skill-Building and Communication	<ul style="list-style-type: none"> <li>• Teach coping mechanisms and mindfulness exercise as well as sensate focus, for improving sexual function and satisfaction.</li> <li>• Practice communication skills, such as active listening and expressing needs and preferences</li> <li>• Discuss sexual myths and misconceptions.</li> </ul>
3	Problem-Solving Support and goal setting	<ul style="list-style-type: none"> <li>• Providing emotional support and validation to women, and creating a safe and non-judgmental space for them to share their experiences, feelings, and concerns. Group members can offer each other empathy, encouragement, and feedback, which can help reduce isolation and promote resilience. This may involve exploring alternative sexual activities or positions, using lubricants or devices, or seeking medical interventions.</li> <li>• Providing emotional support and affirmation to women, and establishing a safe and accepting environment for them to share their experiences, feelings, and worries. Group members can offer each other empathy, encouragement, and feedback, which can help lessen isolation and increase resilience.</li> <li>• Goal-setting: Assisting women in establishing realistic and attainable goals to enhance their quality of life, sexual function, and sexual satisfaction. This can inspire women to take positive steps towards their desired outcomes by giving them back a sense of agency and control over their bodies and lives.</li> </ul>
4	Body Image and Self-Acceptance	<ul style="list-style-type: none"> <li>• Talk about how sexual function and satisfaction are affected by body image.</li> <li>• Look for strategies to improve body image, such as positive self-talk, self-care, and self-acceptance</li> <li>• Share personal stories and experiences related to body image</li> </ul>
5	Partner Involvement and Intimacy	<ul style="list-style-type: none"> <li>• Encourage partners of group members to attend the session</li> <li>• Explore strategies to enhance intimacy and communication with partners</li> <li>• Address issues and worries about engaging in sexual activity with partners</li> </ul>
6	Trauma-Informed Care, Follow-Up and referral	<ul style="list-style-type: none"> <li>• Provide trauma-informed care and support to group members</li> <li>• Regular follow-up and evaluation of group counseling sessions can help assess the effectiveness of the interventions, identify areas for improvement, and ensure that the needs and preferences of the group members are being met.</li> <li>• Evaluate the effectiveness of the interventions and the progress made by group members towards their goals</li> <li>• Identify any unmet needs or concerns</li> <li>• Provide referrals to other services, such as medical care, physical therapy, or individual counseling, may be necessary for some group members.</li> </ul>

## Results

Table 2. displays 50 women who had a mastectomy, with an average age of  $38.24 \pm 5.63$  years; half of these women were 30–40 years of age. majority of women were living in rural areas, were housewives and had pre-diploma education. The mean duration of marriage was  $13.94 \pm 5.56$  years.

The Repeated Measure ANOVA analysis revealed a significant increase ( $p < 0.001$ ) in the total scores and several characteristics of sexual function after fulfillment a group counseling based on problem-solving solution. These results are presented in Table 3. The Bonferroni post hoc test revealed significant differences in the mean scores of variables before and after the intervention for both the total and all categories of sexual function ( $p < 0.001$ ).

The results of the Repeated Measures ANOVA indicate a substantial rise ( $p < 0.001$ ) in the scores

of the physical component summary (PCS) and mental component summary (MCS) following counseling. These findings are visually shown in Figure 1. Pairwise comparison using the Bonferroni post hoc test revealed significant differences in the average scores of the variables before and after the intervention for the physical component summary (PCS) and the mental component summary (PCM) of the quality of life (MOS SF-12) ( $p < 0.001$ ).

The results of the Repeated Measure ANOVA indicate a substantial rise ( $p < 0.001$ ) in the overall scores and several dimensions of sexual pleasure following therapy. These findings are presented in Tables 4. Pairwise comparison using the Bonferroni post hoc test revealed significant differences in the mean scores of variables before and after the intervention for both the total and all categories of sexual pleasure ( $p < 0.001$ ).

**Table 2:** Demographic characteristics and medical data of the participants (n = 50)

Variables	No	%
<b>Age (Mean± SD)</b>	38.24±5.63	
< 30 years	6	12.0
30 – 40 years	25	<b>50.0</b>
> 40 years	19	38.0
<b>Residence</b>		
Rural	35	<b>70.0</b>
Urban	15	30.0
<b>Women's Job</b>		
Housewife	38	<b>76.0</b>
Employed	12	24.0
<b>Level of women education</b>		
Pre-diploma education	23	46.0
Diploma	15	30.0
University degree	12	24.0
<b>Level of husband education</b>		
Pre-diploma education	23	46.0
Diploma	16	32.0
University degree	11	22.0
<b>Marriage duration (Mean± SD)</b>	13.94±5.56	
< 10	15	30.0
10 – 15	17	34.0
> 15	18	36.0
<b>Number of children</b>		
None	7	14.0
1 – 2	25	50.0
3 -4	18	36.0
<b>Stages of breast cancer</b>		
Stage 1	17	34.0
Stage 2	25	50.0
Stage 3	8	16.0

**Table 3:** Changes of total score of sexual function and its dimensions over time among women who received group counseling based on a problem-solving solution through the program phases (n = 50)

Variable	Before intervention (T1)	2 weeks after intervention (T2)	4 weeks after intervention (T3)	p-value*	p-value** (pairwise comparison)	
	Mean±SD	Mean±SD	Mean±SD		P <sup>1</sup>	P <sup>2</sup>
Total score of Sexual Function	14.49±3.54	24.75±5.46	28.36±3.69	<0.001*	<0.001*	<0.001*
Desire	2.57±1.18	4.16±1.58	4.79±1.31	<0.001*	<0.001*	<0.001*
Arousal	2.36±1.06	3.89±1.45	4.28±1.30	<0.001*	<0.001*	<0.001*
Lubrication	2.44±1.16	4.03±1.44	4.61±1.10	<0.001*	<0.001*	<0.001*
Orgasm	2.28±1.04	4.03±1.36	4.62±1.09	<0.001*	<0.001*	<0.001*
Satisfaction	2.35±1.12	4.26±1.20	5.05±0.85	<0.001*	<0.001*	<0.001*
Pain	2.48±1.22	4.37±1.10	5.02±0.88	<0.001*	<0.001*	<0.001*

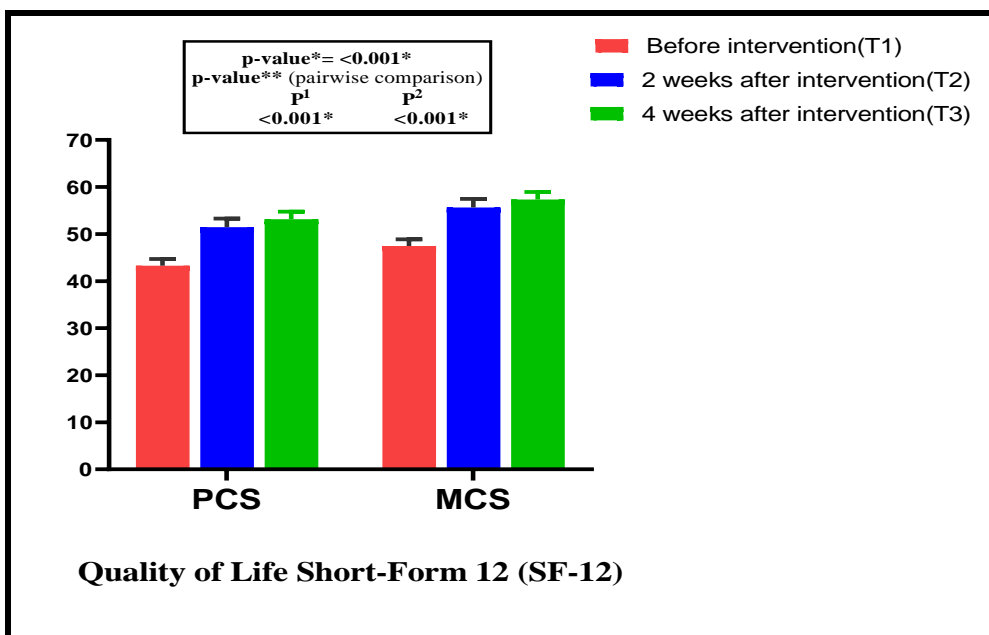
\* Repeated measure ANOVA test

\*\* Bonferroni post hoc test

P1= comparing between before intervention (T1) Vs. 2 weeks after intervention (T2)

P2= comparing between before intervention (T1) Vs. 6 weeks after intervention (T3)

\* Statistically significant difference (p<0.05)



**Figure (1):** Changes of score of PCS and PCM over time among women who received group counseling based on a problem-solving solution (n = 50)

\* Repeated measure ANOVA test

\*\* Bonferroni post hoc test

P1= comparing between before intervention (T1) Vs. 2 weeks after intervention (T2)

P2= comparing between before intervention (T1) Vs. 6 weeks after intervention (T3)

\* Statistically significant difference (p<0.05)

(PCS) physical component summary and (MCS) mental component summary quality of life



**Table 4:** changes of total score of sexual satisfaction and its dimensions over time among women who received group counseling based on a problem-solving solution through the program phases (n = 50)

Variable	Before intervention (T1)	2 weeks after intervention (T2)	4 weeks after intervention (T3)	p-value*	p-value** (pairwise comparison)	
	Mean±SD	Mean±SD	Mean±SD		P <sup>1</sup>	P <sup>2</sup>
Total score of Sexual Satisfaction	41.88±7.12	80.72±4.99	88.30±7.93	<0.001*	<0.001*	<0.001*
Antecedents	14.34±4.86	23.54±4.71	27.14±4.87	<0.001*	<0.001*	<0.001*
Physical and Mental Barriers	14.02±3.71	27.46±2.56	28.78±3.58	<0.001*	<0.001*	<0.001*
Cultural Values	7.18±2.69	14.60±3.18	16.22±3.20	<0.001*	<0.001*	<0.001*
Husband-Related Factors	6.34±1.35	15.12±1.02	16.16±0.96	<0.001*	<0.001*	<0.001*

\* Repeated measure ANOVA test

\*\* Bonferroni post hoc test

P1= comparing between before intervention (T1) Vs. 2 weeks after intervention (T2)

P2= comparing between before intervention (T1) Vs. 6 weeks after intervention (T3)

\* Statistically significant difference (p<0.05)

## Discussion:

Mastectomy is a frequently employed intervention for breast cancer, and it adversely affects a woman's quality of life and sexual functioning. Several interventions have been implemented to address their sexual issues (Faghani & Ghaffari, 2016). The current study aimed to evaluate the effectiveness of group counseling based on a problem-solving solution on women's sexual function, quality of life and sexual satisfaction after mastectomy surgery.

The study results showed a statistically significant improvement in the average score for overall sexual function and quality of life after the intervention. The research findings also indicated a notable disparity in the level of sexual pleasure reported by women who had mastectomy after the operation. These results align with the findings of Bokaie et al. (2022), who observed that the intervention led to improvements in sexual function and satisfaction.

The findings of this study align with the results of several studies that have investigated the sexual dysfunction seen by individuals with breast cancer. According to a study by Eljaali et al. (2021), there is a significant rate of sexual dysfunction in breast cancer patients. The study conducted by Barjasteh et al., (2022) examines how couple-centered group counseling affects the sexual and reproductive problems of breast cancer survivors. The study's findings indicated a notable enhancement in female

sexual function when utilizing the FSFI-BC following psychosexual GES-based therapy for breast cancer survivor.

Fateme et al. (2022) showed that cognitive behavioral therapies can treat all forms of sexual dysfunction in breast cancer patients. According to Bahmani et al. (2017) found that a combined intervention approach increased mastectomy patients' marital satisfaction and their husbands' sexual pleasure. A study conducted in 2016 by Faghani and Ghaffari, post-mastectomy survivors' sexual functioning and sexual quality of life were evaluated following sexual rehabilitation using the PLISSIT model. According to this study, increasing the quality of life and sexual functioning in husbands and survivors of breast cancer can be achieved by teaching coping and problem-solving techniques and encouraging involvement in group programs for the purpose of expressing feelings and attitudes about one's current sex life.

Keshavarz et al. (2021), found that PLISSIT-based counseling improves the quality of life and decreases sexual dysfunction and sexual distress in women who have survived breast cancer. Also, according to de Almeida et al. (2020), the PLISSIT model may help breast cancer survivors cope with and manage changes in their sexuality and function following treatment.

The current study compared the mean scores of the Physical (PCS) and Mental (MCS) of quality of life before and after the intervention, revealing a

significant difference. These findings align with various other studies on interventions for breast cancer patients. In the same line **Xu et al. (2022)** found that psychological therapies, particularly cognitive behavioral therapy and psychoeducational therapy, significantly enhance the sexual function of these patients. A similar finding was made by **Mei et al. (2022)**, who found that nursing interventions increased sexual quality of life. These interventions demonstrated a large short-term influence on sexual satisfaction, as well as a higher long-term impact on sexual function. Additionally, **Shalamzari et al. (2022)** assessed the impact of sexual counseling using the BETTER and PLISSIT models on the sexual quality of life among women who underwent mastectomies. They concluded that while both models are effective, the BETTER model yields better results in improving sexual life.

The PCS and MCS scores in the current study significantly increased following counseling, consistent with the results of **Jose et al. (2020)**, who concluded that physical activity offers numerous health benefits, with strength training programs providing the most significant improvements in overall physical condition and self-perceived health. These results are also in line with research conducted by **Mohammed et al. (2013)** in Egypt, which found that programs incorporating physical activity significantly reduce symptoms of fatigue, depression, and anxiety while enhancing quality of life.

Moreover, the results of the present study support the findings of **Wei C-W et al. (2021)**, who determined that there is a significant correlation between health literacy and the quality of life in terms of both physical and mental well-being. This suggests that educational interventions could have a beneficial effect on the quality of life of individuals who have survived breast cancer. **Farah et al. (2014)** observed no statistically significant difference in sexual function improvement between the two groups after analyzing the effects of sexual and communication skills on breast cancer patients. Cultural and demographic changes may be to blame.

### Strength and limitations of the study

This study's investigated the impact of psychological therapies based on a problem-solving strategy on breast cancer survivors' sexual

health, which is one of its strongest points. Additionally, the study investigated a significant cultural issue in Egypt: the disregard for the sexual needs of cancer-affected women. Due to participant reluctance to be assigned to the control group, the study lacks randomization. Furthermore, not every session included the husbands due to cultural reasons. The study's brief follow-up period was another drawback.

### Conclusion and Recommendations

The results of this study showed that, following sexual therapy, the mean scores for sexual function, sexual satisfaction, and quality of life were statistically significant. Given this improvement in sexual function and satisfaction, it is recommended that randomized controlled trials with large sample on ongoing sexual health counseling programs for breast cancer survivors be conducted. Husbands must be included in future research as well, since the participation of both partners will increase the efficacy of educational-counseling programs.

### Implication to clinical practice:

The evidence supporting the clinical application of psychosexual therapies in women who have survived breast cancer may be impacted by the fact that sex is a sensitive and relatively private topic in Arab nations cultures, where the sexual problems of women with cancer are neglected, where it is also governed by moral, ethical, and legal conventions and constraints.

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