



The Effect of Counseling on Body Image and Loneliness among Post-mastectomy Women; An Interventional Study

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ABSTRACT

Background: One of the most dangerous illnesses affecting women's physical, mental, and social well-being is breast cancer. A mastectomy alters a woman's daily existence and has a detrimental impact on her perception of own body. **Objective:** To evaluate the effect of a counselling program on improving body image and feeling of loneliness among post-mastectomy women attending clinical oncology outpatient clinic at Zagazig University Hospital. **Methods:** An interventional study was conducted among post-mastectomy women. Participants were randomly allocated to counselling and control groups. Participants were evaluated as regard their body image perception using breast cancer questionnaire (BIBCQ) and cancer loneliness scale (CLS) before and after implementation of six consecutive counselling sessions. **Results:** A total 116 women were included; 58 in intervention group and 58 in control group. The mean age was 45.67 ± 8.98 and 48.1 ± 7.59 years, respectively. After implementation of the intervention, all domains of body image significantly decreased compared to baseline in the intervention group with exception of body concern. On the other hand, vulnerability, limitations, and body concerns significantly decreased compared to baseline in the control group. For the overall score, all patients frequently reported experiencing negative thoughts about cancer and feelings of loneliness. However, after the intervention, the intervention group showed a significant increase in the frequency of infrequent perception of bad thoughts compared with the control group (77.6% vs. 37.8%, $p < 0.001$). **Conclusions:** Counselling program had a positive effect on improving body image acceptance and feeling of loneliness among women with breast cancer.

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INTRODUCTION

Throughout women's lives, one in eight of them will get breast cancer.¹ When evaluated by incidence and mortality, the global burden of breast cancer in women is significant and still growing. Worldwide, it is anticipated that over a million women would receive a breast cancer diagnosis each year.² A mastectomy is

a necessary course of treatment in many cases of breast cancer. Psychological issues include discouragement, anger, despair, anxiety about a cancer return, loneliness without family, fear of pain, low self-esteem, issues with body image, and fear of death could arise from it.³

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Body image is a multifaceted notion that encompasses attitudes, feelings, perceptions, and beliefs about one's personal appearance and body type. It is anticipated that survivors' perceptions of their bodies may be negatively impacted by the physical alterations brought on by cancer therapies.⁴

Cancer patients who experience loneliness have less favorable health results. Increased loneliness has been linked to decreased immune system performance as well as increased cancer incidence, all-cause mortality among cancer patients, and depression, exhaustion, pain, and sleep disturbance.⁵

One of the most important therapies for raising awareness and enhancing people's sense of self-efficacy is counseling. It serves as a manual for imparting the values and methods of selecting, organizing, and leading a successful life. Counseling for cancer sufferers might lessen their psychological strain by learning coping mechanisms in counseling groups.⁶

The objective of the study was to evaluate the effect of counseling program on improving body image and feeling of loneliness among post-mastectomy women attending clinical oncology outpatient clinic at Zagazig University Hospital.

METHODS

An interventional study was conducted at clinical oncology outpatient clinic at Zagazig University hospital.

Based on a previous study the mean \pm SD of body image score after intervention among counseling group versus control group (70 ± 8 vs 60 ± 22),⁶ the sample was calculated to be 116 participants (58 in each group) using Open Epi program with 90% power and 95% confidence.

Participants were randomly assigned into intervention (counseling) group who received counseling sessions about body image and feeling of loneliness, and control group who received routine treatment without providing counseling sessions. Computer-generated random numbers were used as method for simple randomization of participants. Double blinded method was done. The investigator did not know which patient would be allocated except during a meeting where a third party used the random number generated and informed investigator at time of study which

intervention patient would undergo. The target participants included post-mastectomy women aged 20 to 60 years before receiving chemotherapy. The following were excluded from the study; patients who had a history of chronic diseases or severe mental illness (e.g., depression and schizophrenia), use of psychiatric drugs, other cancers, recent disastrous events, previous participation in lifestyle counseling classes; Women undergoing breast reconstruction surgery; Patients with visceral metastases, or several metastatic sites; Women who have any other body disfigurements.

Data collection tools: The Body Image after Breast Cancer Questionnaire (BIBCQ).⁷ The BIBCQ was created to assess the multidimensional long-term effects of breast cancer on body image. There are six dimensions of body image that are measured by this 53-item survey: vulnerability, physical limitation, body stigma, body concern, arm concern, and transparency.⁷ Cancer loneliness scale (CLS): A 7-items tool used to assess cancer-related loneliness; the measure uses a 5-point Likert-type scale.⁵ Anthropometric measures: include body weight, body height, waist circumference (WC), and hip circumference (HC). The Body Mass Index (BMI) was calculated as the weight in kilograms (kg) divided by the height in meters squared (m²). Interpretation of these results followed the international classification proposed by the World Health Organization.⁸

Intervention: Consecutive six counseling sessions including: Psychoeducation about the nature of breast cancer, transforming negative thoughts into positive thoughts to improve their perception of their bodies, training women to increase their self-esteem and self-confidence to help them to adjust to stress and improve their negative perception of their body, improving body image to increase their self-esteem, manual lymph drainage (MLD) to improve arm lymph edema, physical exercise, nutritional advice. Each session continued for 45- 60 minutes over 12 weeks. Patients were classified into ten subgroups; (each involved 4-6 women). The sessions started with welcoming the patients, reassuring them, assessing their physical and emotional status, the program implemented through various teaching methods as brainstorming, lectures by using power point presentation, group discussion and printed materials.

Table 1: Comparison between the studied groups regarding age and socio-economic status

	Intervention group N= 58	Control group N= 58	Test	p-value
Age (years)	45.67 ± 8.98	48.1 ± 7.59	-1.575*	0.118
Socio-Economic Status:				
Low	18 (31%)	17 (29.3%)		
Middle	36 (62.1%)	39 (67.2%)	0.029**	0.864
High	4 (6.9%)	2 (3.4%)		

*Mean ± standard deviation tested with independent sample t test ** Percentages tested with chi square test

Table 2: Comparison between the studied groups regarding disease-specific data

	Intervention group N= 58	Control group N= 58	Test*	p-value
Pathology				
IDC	46 (79.3%)	51 (87.9%)		
ILC	12 (20.7%)	7 (12.1%)	1.574	0.21
Stage				
I	27 (46.6%)	19 (32.8%)		
II	21 (36.2%)	25 (43.1%)	2.002 [†]	0.157
III	10 (17.2%)	14 (24.1%)		
Surgery				
Simple/total	14 (24.1%)	8 (13.8%)		
Modified	44 (75.9%)	50 (86.2%)	2.019	0.155
Family history				
Negative	40 (69%)	46 (79.3%)		
Positive	18 (31%)	12 (20.7%)	1.619	0.203
Date of mastectomy				
One month	26 (44.8%)	32 (55.2%)		
Two months	17 (29.3%)	19 (32.8%)	2.283 [†]	0.093
Three months	15 (25.9%)	7 (12.1%)		

IDC, Invasive Ductal Carcinoma; ILC, Invasive Lobular Carcinoma. * Chi square test unless mentioned otherwise. **chi square for trend test

Post-intervention phase: Immediately, after the implementation of the program at the end of the 6th session, the researcher reassessed the study subjects using the same study tools used in preprogram assessment (BIBCQ and cancer loneliness scale).

Validity of the tools: The validity of the tools was ensured by a group of subject experts, medical staff, who reviewed the tools for accuracy. Test-retest reliability was done for testing the internal consistency of the tools by administering the same tools to the same subjects under similar conditions on two or

more occasions. Scores from repeated testing have been compared. Study tools revealed reliable at $\alpha=$

0.87 for Body Image after Breast Cancer Questionnaire (BIBCQ) and at $\alpha=0.94$ for Cancer loneliness scale (CLS)

Statistical analysis: The collected data are analyzed by computer software (SPSS) version 20. Mean and standard deviation were used to summarize data, Chi square and independent t-test were used to compare groups. The probability was considered significant if P is ≤ 0.05 .

RESULTS

A total 116 women were included; 58 in intervention group and 58 in control group. As shown in Table 1, the intervention group and the control group had no significant difference regarding the age of participants

(the mean age was 45.67 ± 8.98 in intervention group vs. 48.1 ± 7.59 in the control group) and the socio-economic level. As shown in Table 2, There were no significant differences between the studied groups regarding disease-specific data. For the pathological type of cancer, 79.3 % of the patients had Invasive Ductal Carcinoma (IDC) and 20.7% had Invasive lobular carcinoma (ILC) in the intervention group vs. 87.9% (IDC) and 12.1% (ILC) in the control group. Approximately 46.6% of the intervention group had stage I cancer while 43.15% in the control group had stage II cancer. Most participants had negative history of breast cancer in both groups; with no significant difference between the studied groups regarding the

pathological type of cancer, stage, type of operation, date since operation or family history of breast cancer. As shown in Table 3, The mean BMI in the intervention group was 25.69 ± 3.98 vs 25.22 ± 3.96 in the control group, with non-significant difference between the studied groups regarding body mass index, waist circumference, waist to hip ratio or hip circumference. As shown in Table 4, After implementation of the intervention, all domains of body image significantly decreased compared to baseline in the intervention group with exception of body concern. On the other hand, vulnerability, limitations, and body concerns significantly decreased compared to baseline in the control group.

Table 3: Comparison between the studied groups regarding anthropometric data

	Intervention group N= 58 Mean \pm SD	Control group N= 58 Mean \pm SD	Test*	p-value
Body Mass Index	25.69 \pm 3.98	25.22 \pm 3.96	0.632	0.529
Waist circumference	84.4 \pm 9.09	84.32 \pm 9.33	0.044	0.965
Hip circumference	109.45 \pm 8.71	110.44 \pm 8.09	-0.637	0.525
Waist to hip ratio	0.77 \pm 0.04	0.76 \pm 0.04	1.062	0.294

*Independent sample t test

As shown in Table 5, all patients had high frequent perception of bad thoughts score regards cancer loneliness feelings. The intervention group had significantly improvement bad thoughts score regards cancer loneliness feelings after intervention. The intervention group showed a significant increase in the frequency of infrequent perception of bad thoughts compared with the control group (77.6% vs. 37.8%, $p < 0.001$).

DISCUSSION

A comprehensive and multidimensional strategy should be taken into consideration, as the survival rates of cancer as a chronic disease are improving. This should draw attention to the significance of addressing how these patients can adapt to the disease and identify which factors can help patients to thrive. According to the study's findings, participants' ages were (48.1 ± 7.59) in the control group and (45.67 ± 8.98) in the intervention group. This was in close agreement with the findings of an Egyptian study on the impact of an educational nursing program on the

performance and self-efficacy of women undergoing mastectomy. The study's sample of women had an average age of (48.77 ± 9.1) years.⁹ A different study found that most respondents were women over 40.¹⁰ The current study's findings, showed that 69% of the intervention group and 79.3% of the control group had no family history of cancer, were in line with findings from a prior study on the impact of nursing rehabilitation programs on preventing lymphedema in post-mastectomy women, which found that the majority of the studied women had no family history of cancer.¹¹ These results, however, conflicted with those of another study that found most individuals had a positive family history of breast cancer, with the mother being the first-degree relative.⁹ Prior to the intervention, there were statistically non-significant differences between both groups for every domain of the body image questionnaire. After the program was implemented and the study came to an end, the intervention group showed a significant change in all domains ($p < 0.001$) compared to the control group, which showed a significant change in

Table 4: Comparison between the studied groups regarding domains of body image before and after intervention

	Intervention group N= 58 Mean ± SD	Control group N= 58 Mean ± SD	Test*	p-value
Vulnerability				
Before	44.6 ± 7.34	43.71 ± 8.27	0.617	0.538
After	28.64 ± 12.82	37.26 ± 8.78	-4.224	<0.001**
P (pt)	<0.001**	<0.001**		
Body stigma				
Before	46.83 ± 6.85	44.43 ± 8.99	1.615	0.109
After	40.74 ± 9.36	44.55 ± 7.65	-2.401	0.018*
P (pt)	<0.001**	0.869		
Transparency				
Before	22.74 ± 6.6	20.36 ± 7.43	1.823	0.071
After	18.98 ± 6.51	20.1 ± 7.54	-0.857	0.393
P (pt)	<0.001**	0.189		
Limitations				
Before	33.57 ± 8.13	31.98 ± 6.16	1.185	0.239
After	25.17 ± 43.99	31.03 ± 6.38	-4.284	<0.001**
P (pt)	<0.001**	0.014*		
Body concern				
Before	20.26 ± 6.79	19.43 ± 6.19	0.686	0.494
After	24.07 ± 6.83	19.07 ± 6.18	4.133	<0.001**
P (pt)	<0.001**	0.018*		
Arm concern				
Before	14.69 ± 4.01	13.71 ± 3.62	1.385	0.169
After	11.71 ± 2.76	13.71 ± 3.62	-3.348	<0.001**
P (pt)	<0.001**	>0.999		

*Independent sample t test

vulnerability, limitations, and body concerns (p<0.001, p< 0.014, p<0.018 respectively).

In a similar vein, research on the psychological adjustment following breast cancer diagnosis revealed that many women with breast cancer experience body image disturbances at some point during their cancer journey.¹² This was further supported by studies on breast cancer survivors who participate in counseling programs, which demonstrate improvements in psychological status following the intervention, and a report that psychosocial interventions positively address body image concerns of women with breast cancer in their study about "Self-Compassion and hope in the context of body image disturbance and

distress in breast cancer survivors"¹³ and studies on breast cancer women who are subjected to counseling program showing improvement in psychological status after the intervention than before.¹⁴

The mean post-mastectomy subject's concern score decreased after completing the psychoeducational program, and three statistically significant differences were found between the various levels of body image concerns before and after the program. These results were consistent with a previous report that found a significant improvement in body image concerns.³ Furthermore, a study revealed that following psychoeducational intervention, women who have had mastectomy reported better body image outcomes.¹⁵ In

Table 5: Comparison between the studied groups regarding cancer loneliness scale before and after intervention

	Intervention group N= 58	Control group N= 58	Test*	p-value
Baseline				
Frequent (>19)	58 (100%)	58 (100%)	-	-
After intervention				
Infrequent (<19)	45 (77.6%)	22 (37.8%)	18.691	<0.001
Frequent (>19)	13 (22.4%)	36 (62.2%)		

**Independent sample t test*

a similar vein, a study found that after taking part in a psycho educational program, women significantly improved their level of appearance satisfaction, reported reduced anxiety, expressed less concern about their bodies, and invested less in their appearance as a source of self-appraisal.¹⁶

Contrary to these findings, a different study that looked at the effects of a psycho-educational program on body image after mastectomy participants reported that there were significant differences in their body image during the first year following the surgery, but that these differences eventually disappeared. It was also noted that a sizable portion of the subjects (91%) had a persistently negative body image for a period of three years, and that the subjects require additional time to adjust to the treatment of cancer.¹⁷

After application of counseling sessions to reduce loneliness, all patients had frequent perception of bad thoughts about cancer loneliness feelings while after intervention, the intervention group significantly differ with increasing frequency of (77.6% infrequent perception of bad thoughts) versus (37.8% within the control group).

According to a meta-analysis study, patients who experienced a lack of psychological or social support were more likely to experience loneliness; loneliness also tended to increase over time following a cancer diagnosis; and there was a negative correlation between social function, loneliness, and a lack of social support.¹⁸ According to a previous randomized clinical trial, the experimental group's loneliness scores were considerably lower than those of the control group.¹⁹

Consistent with our research, other studies indicated that encouraging, expressive discussion groups served as a safeguard, significantly lowering feelings of isolation, fostering hope, and improving the Quality of Life (QoL) for breast cancer patients.²⁰ In the intervention group, the use of psycho-educational

intervention dramatically decreased loneliness. Sustained post-intervention follow-up results showed the effectiveness of the intervention.²¹ In contrast to this finding, there was no change in loneliness scores following group participation; the findings emphasize the low adherence to participation in in-person social support groups.²²

CONCLUSIONS

Women who had a mastectomy after being diagnosed with breast cancer may experience a range of significant changes to their body images, which may have an impact on their psychological health and overall quality of life. Counseling programs have been shown to improve women with breast cancer's perception of their bodies and their sense of loneliness. Health care providers should encourage post-mastectomy women to participate in counseling programs to understand behavioral changes and to reduce feeling of stigma and loss after mastectomy to improve their quality of life. Development of educational program for all physicians and other health care providers in hospitals focusing on caring for people with breast cancer and increasing their awareness about psychological problems associated with breast cancer.

Limitations of the study: This study reflects the situation of women shortly after mastectomy. With time, women may or may not adjust better to their altered appearance.

Ethical Considerations

The necessary official permission was obtained from Institutional Review Board (IRB) in faculty of Medicine Zagazig university (ZU-IRB# 5636/2-10). And a written consent was obtained from patients involved in the study after explaining its purpose to them.

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