

## Effect of Nursing Intervention on Coping Strategies of Women after Mastectomy

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**Abstract: Background:** Women after mastectomy may experience unique stressors related to loss of femininity, changes in various social roles, body image, sexual concerns, and altered relationships with significant others. These problems eventually alter their coping strategies. The purpose of the study was to investigate the effect of nursing intervention on coping strategies of women after mastectomy. **Method:** A quasi-experimental research design (study & control groups' pre/post-test) was utilized. A purposive sample of 100 women after mastectomy was chosen. The study was conducted at the Female Surgical Department, Oncology Clinics of Menoufia University Hospital, Shebin El-Kom Teaching Hospital, and Oncology Hospital in Menoufia Governorate. A structured interviewing questionnaire, an observational checklist, and an adaptive coping strategies questionnaire were used. **Results:** The majority of the study group (86.0%) had a high coping level after the intervention compared to none in the control group. Also, there was a highly statistically significant improvement in the level of coping among the study group from 4% before the intervention to 86% after the intervention. **Conclusion:** The nursing intervention resulted in an improvement of total knowledge and practice scores related to breast self-examination. Also, there was a highly statistically significant improvement in all aspects of women's coping strategies in the study group compared to the control group. **Recommendations:** Women who have had a mastectomy are advised to receive ongoing knowledge and skills regarding adaptive coping strategies. Maternity nurses should be encouraged to participate in psychotherapy nursing interventions specialized for enhancing the coping skills of women with mastectomy.

**Keywords:** Coping strategies, mastectomy, nursing intervention.

### Introduction

According to Michael (2022), the breast is a uniquely important part of the female body. A proportionately developed breast is a feminine feature and a sign of sexuality. Breasts are necessary for women's self-confidence, when their role in society has expanded immensely. Also, breast cancer is the most commonly

diagnosed cancer among women and the second leading cause of cancer mortality in women worldwide. Meanwhile, Abdalla (2022) added that a diagnosis of breast cancer, regardless of the stage, can be stressful, influencing multiple spheres of life, disrupting physical status, emotional

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and spiritual well-being, and personal relationships for the patient and family. Moreover, Hinkle and Cheever (2018) stated that surgery is the primary treatment for most breast cancer patients; it is generally conducted to totally remove breast tumors, either by mastectomy or lumpectomy. They also added that there are three main types of mastectomy subcutaneous mastectomy, total simple mastectomy, and modified radical mastectomy. In addition, Franceschini & Masetti (2020), revealed that an estimated 30 to 50% of women who have had the lymph nodes removed to develop a condition called lymphedema, which may cause impairment of the upper limb movement and activity limitation.

Furthermore, Visser and Herbert (2019) reported that Egypt like many other developing countries, women after mastectomy may experience unique stressors related to loss of fertility, changes in various social roles, body image, sexual concerns, and altered relationships with significant others. Similarly, Johnson (2020) concluded that a mastectomy is a critical event that influences nearly all aspects of a woman's and her family's activities of daily living. Furthermore, women usually lose interest in the deterioration of their economic standards. Also, they may experience deterioration in their sexual adjustment. These problems for these specific groups of patients eventually alter their coping strategies and quality of life.

Additionally, Hanoch (2018) noted that breast cancer survivors treated with mastectomy often employ several cognitive and behavioral strategies to cope with the various perceived stressful situations they experience. Also, Rosberger et al. (2020) stated that the positive problem solving, escape/avoidance, and seeking social

support are examples of coping behaviors. They added that the women with breast cancer need supportive care to alleviate psychological distress and assist them to adapt to the situation. In addition, classen et al. (2018) concluded that the supportive care is an attitude that facilitates interpersonal relationships and the individual's physical and psychosocial comfort).

Also, Cho et al. (2020) revealed that coping is an individual's behavioral and cognitive efforts to manage a stressful event, making the person understand the factors that will influence the outcome of the process. They suggested that in order to adapt and cope, the patient ought to employ certain coping mechanisms. Also, they added that the motional upset and living with the negative repercussions of the illness generate physical weakness and affect the development of daily activities. However, it can be seen in the speech that patients seek to reorganize their lives, making adaptations so that they can maintain their social relations and still perform their daily activities.

Finally, Kearney and Richardson (2022) reported that the nurse plays an important role in reducing the perception of illness severity and allowing psychological adjustment and quality of life to be maintained. They also revealed that the nursing interventions should be provided with a clear structure to make the nursing care effective and to facilitate descriptions of outcomes. Also, they added that the nursing interventions for women with mastectomy should focus on education, information, and communication, symptom management, and the importance of multidisciplinary teamwork, psychological support, and coordination of care.

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### **Significance of the Study:**

According to Da Silva et al. (2020) numerous studies have reported that coping with mastectomy presents many challenges. Also, mastectomy has traumatic consequences for each woman, unleashing negative feelings such as emotional shock, the uncertainty of prognosis, the fear of pain, fear of married life, fear of feminists, and the risk of facing death. Mastectomy rates in the United States are high, accounting for 70%-74%, Oman 65%, Syria 88%, Tunisia 82.4%, and Egypt 19.9%-22%.

Furthermore, David (2019) reported that the mastectomy can damage woman's self-image, leading to withdrawal from society, isolation, and depression. Also, he added that women may become anxious and uncertain about the future, worrying about physical or financial difficulties down the road. On the other hand, the illness may stop the patient from doing what she once found enjoyable, causing grief for the changes in her lifestyle and environment. Therefore, these emotional issues can have just as real an impact as the illness. Based on the previous literature, only limited studies have investigated the effect of nursing intervention on coping strategies of women after mastectomy. So, the researchers tried to fill in such a gap of knowledge by conducting this study.

### **Purpose of the Study:**

The purpose of the study is to investigate the effect of nursing intervention on coping strategies of women after mastectomy.

### **Research Hypotheses:**

1. Women who receive the nursing intervention (study group) are expected to have higher level of knowledge

about mastectomy than women who do not receive it (control group).

2. Women who receive the nursing intervention (study group) are expected to have higher level of practice related to care of mastectomy than women who do not receive it (control group).
3. Women who receive the nursing intervention (study group) are expected to have higher level of coping with mastectomy than women who do not receive it (control group).

### **Research Design:**

A quasi-experimental research design (study & control groups' pre/post-test) was utilized in this study.

### **Research Settings:**

The study was conducted at the Female Surgical Department and Oncology Clinics of Menoufia University Hospital, Shebin El-Kom Teaching Hospital, and Oncology Hospital. The female patients who fulfilled the following criteria were selected:

#### **Inclusion criteria for the sample:**

- Women should have mastectomy.
- Women should be able to communicate clearly.

### **Sample Size:**

Based on the previous studies that examined the same outcomes and found significant differences, the female patients who fulfilled the previous criteria achieved 80% power to detect this difference with a significant level of 5%. So, a purposive sample of 100 women was recruited for the study and divided into two equal groups; 50 women for the study group and 50 women for the control group. The study group received the nursing intervention program in addition to routine hospital

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care. The control group received only routine hospital care;

**The formula to calculate the sample size is:**

- $SS = Z^2 * P * (1-P) / M^2$
- $SS = (z\text{-score})^2 * P * (1-P) / (\text{margin of error})^2$
- SS= Sample size for an infinite population.
- Z=Z- value= 1.96 for 95 % confidence level).
- P= Population proportion (in decimal form) (assumed to be 0.5(50%)
- M= Margin of error at 5% (0.05)

SS adjusted = (SS)/ (1+ (SS-1)/population) (Cochran, 1977), sampling technique (3<sup>rd</sup> ed., New York: John Wiley & Sons).

### **Instruments for Data Collection:**

Throughout the present study, data was collected using these instruments:

#### **Instrument One: A structured interviewing questionnaire**

This instrument was developed by the researchers based on the review of currently related literature (Abo-Elazm et al., 2018) to obtain complete data concerning breast cancer and mastectomy. The instrument consisted of three parts:

- **Part One:** Patients' socio-demographic data. It included age, educational level, occupation, residence, marital status, etc.
- **Part Two:** It is concerned with obstetrical, gynecological, medical, and surgical history. It included menstruation, age at menarche and menopause, pregnancy, abortion, use of contraception, relatives with breast cancer, date of the operation, disease discovery, and type of surgical intervention.
- **Part Three:** It is concerned with an assessment of women's level of knowledge regarding breast cancer and

mastectomy. It covered breast cancer definition, causes, signs and symptoms, early detection methods, side effects after mastectomy, prognosis, and follow-up. These questions are used to assess the women's level of knowledge regarding breast cancer and mastectomy before the intervention (pre-test) and after the intervention (post-test).

#### **The scoring system of knowledge:**

Each item of the level of knowledge was given a score; complete answer was scored (2), incomplete answer was scored (1), incorrect or don't know answer was scored (0). The total knowledge score was calculated by the summation of the scores for the "known items." The scores were converted into percentages. The higher scores reflected higher levels of knowledge regarding breast cancer and mastectomy. The total knowledge score was indicated as Good: >75% of the total knowledge score, average of 75 % - > 50% of total knowledge score; poor if less than 50%.

Total knowledge score = (0-14), divided into the following categories:

- Good > 75% (11-14).
- Average from 50 - 75% (7 -10).
- Poor < 50 % (0-6)

#### **Instrument Two: An observational checklist of 10 items.**

It was adopted from Long et al. (1993) to assess the women's practice of breast self-examination (BSE) to detect any lymph nodes in other breasts.

**Scoring system:** A score for each item is as follows:

- Not done =0, incorrectly done =1, or correctly done =2.
- The total score of breast self-examination is 20. It is considered satisfactory > 60% (>12) and unsatisfactory < 60% (<12).

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### **Instrument Three: Adaptive Coping Strategies Questionnaire:**

It was adapted from Büssing et al. (2012). The adaptive coping strategies questionnaire is an instrument for measuring the adaptive coping styles of patients with chronic diseases. The questionnaire was presented in English and translated into Arabic. This questionnaire was modified by the researcher and submitted to a jury of experts in Psychiatric Mental Health Nursing and Maternal and Newborn Health Nursing for validity and reliability. The adaptive coping strategies questionnaire consisted of 31 items, including (Conscious way of Living; Positive attitudes; Reappraisal; Trust in medical help; God's help; Search for alternative help). All items were scored on a 3-point scale from (0 = Never), (1 = Sometimes) and (2= Often).

### **The scoring system was as follows:**

- High coping: Scores from 41 to 62.
- Moderate coping: Scores from 21 to 40.
- Low coping: Scores from 0 to 20.

### **Validity of the instrument:**

Questionnaires were formulated and cross-checked for validity by five qualified experts (two professors in Maternal and Newborn Health Nursing, and three professors from the Psychiatric Mental Health Nursing at the faculty of nursing). They reviewed the items for completeness, clarity (content validity), relevance, coverage of the content, and clarity of the questions (content validity). The required modifications were carried out accordingly.

### **Reliability of the instrument**

The researchers applied test-retest reliability for testing the internal consistency of the instruments. It has been done through the administration of the same instruments to the same participants under similar conditions

on two or more occasions. Scores from repeated testing were compared to test the consistency of the results over time. It has reasonable internal reliability, good test–retest reliability, and good concurrent validity. Reliability of instruments is as follows. Instrument one,  $\alpha = 0.82$ , instrument two,  $\alpha = 0.628$ , and instrument three  $\alpha = 0.861$ .

### **Ethical Considerations:**

Approval of the Committee of Ethics and Research in the Faculty of Nursing, Menoufia University was obtained on 8/6/2020. The researchers introduced themselves to the participating women and explained the purpose of the study and its nature to obtain their agreement to enroll in the study as well as their cooperation. Also, approaches to ensure the ethical issues were considered in the study regarding confidentiality and informed consent. Confidentiality was achieved by the use of locked sheets with the names of the women after mastectomy replaced by numbers. All women were informed that the information they provided during the study would be kept confidential and used only for statistical purposes. After finishing the study, the findings were presented as group data with no personal women's information remaining. Each woman was informed that participation in the study was voluntary, and they could withdraw from the study whenever they decided to do so. Also, each woman was allowed to ask any question about the study details

### **Pilot study:**

A pilot study was conducted to test the feasibility, applicability, and understandability of the instruments. It was conducted on 10 % of the total sample (10 women after mastectomy) according to the selection criteria. All women participating in the pilot study were excluded from the study sample.

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### **Procedure**

Official letters were taken from the Dean, Faculty of Nursing, and Menoufia University and submitted to the directors of Menoufia University Hospital and Shebin El-Kom Teaching Hospital to carry out the study. Official permission was obtained to carry out the study from the directors of the above-mentioned settings. The study was conducted for 10 months, starting from the beginning of July 2021 to the end of April 2022. Data was collected three days per week (Saturday, Sunday, and Thursday) from 9.30 a.m. to 2 p.m.

During the initial visit, the researchers introduced themselves and explained the purpose of the research. Each woman was individually interviewed in the waiting area of the outpatient clinic to collect the data related to her sociodemographic status, previous obstetric, gynecological, medical, and surgical history. Meanwhile, the women's knowledge regarding breast cancer and mastectomy was collected using instrument one. Furthermore, the women's practice of breast self-examination (BSE) was assessed using instrument two. Also, the women's coping strategies was assessed using instrument three. The interviews took around 15-20 minutes to be completed for each woman. The researchers approached the women and asked them questions in Arabic, then recorded their responses in the specially designed instrument. The telephone numbers of the studied women and their addresses were taken to facilitate communication.

The researchers identified the deficit in women's knowledge regarding breast cancer and mastectomy; women's practice of BSE; and the impairment of the adaptive coping strategies for each woman. According to the needs of the studied women and a review of related

literature (Ahmed and Dawood, 2017), the objectives of the guide booklet were set. The content of the booklet was prepared to be provided to the study women individually. The guide booklet included the nursing intervention and the coping strategies of women after mastectomy was developed by the researcher and reviewed by a group of subject area experts. It had four chapters that covered breast cancer, mastectomy, and how to improve a woman's coping strategy. The first chapter included information regarding the breast cancer definition, signs and symptoms, causes, risk factors, and side effects after mastectomy. The second chapter included information regarding the methods of early diagnosis, prognosis, and prevention. The third chapter included the coping strategies to mastectomy and how to improve women's coping. The fourth chapter included information regarding relaxation techniques and deep breathing exercises.

Then, the implementation phase started. The researchers used the teaching sessions to provide a nursing intervention program to women undergoing mastectomy regarding adaptive coping strategies. Six teaching sessions were implemented for the women three days per week, and each session took about an hour. One session was about an overview about the breast cancer and mastectomy, one regarding the breast self-examination practices and lifestyle modifications required to prevent the recurrence of breast cancer, and two sessions related to the effect of mastectomy on the women's coping strategies, and also two sessions focused on stress management techniques. The researchers discussed with the studied women after mastectomy what breast cancer means,

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what mastectomy means, risk factors, causes, signs and symptoms, stages, complications, treatment of breast cancer, and the types of mastectomies. The researchers discussed with the studied women after mastectomy the methods of breast self-examination, the importance of breast self-examination, and the lifestyle modifications required to prevent the recurrence of breast cancer. At the end of the session, the researcher advised the women to apply breast self-examination practices to discover any lymph nodes in the other breast and make lifestyle modifications required to prevent the recurrence of breast cancer. Each woman was given a booklet and informed about breast self-examination practices. The researchers provided information regarding the definition of coping, the types of coping, social and psychological effects of mastectomy, and enhanced psychosocial coping strategies using social support, interpersonal relationships to cope with the community.

The researchers discussed with the women the importance of stress-reduction techniques like deep and slow breathing or mental imagery and visualization. In addition to a discussion of the free expression of feelings and the exchange of life experiences, the women who underwent mastectomy were given psychological support to help relieve stress and anxiety and improve their coping strategies. At the end of the session, the researcher advised the women to apply stress management techniques such as deep breathing exercises to relieve the stress and improve their coping strategies. Each woman was provided a guide booklet and informed about the nursing intervention program. The researcher scheduled each woman for a post-test

at the outpatient clinics or over the phone.

### **Control Group:**

The women assigned to the control group were also interviewed and assessed for their knowledge about breast cancer and mastectomy, BSE practices, and coping strategies (pre-test). They did not receive any intervention from the researcher. The researchers scheduled each woman for a post-test at the outpatient clinics or over the phone. They received a guide booklet after the completion of the study.

In this phase, evaluation was conducted after the intervention (post-test). The women after a mastectomy in both study and control groups completed the post-test to assess their knowledge regarding breast cancer and mastectomy using instrument one. They were also evaluated for their practices of breast self-examination (BSE) in the form of satisfactory or unsatisfactory practice using instrument two. Meanwhile, they were evaluated for their coping strategies in the form of low, moderate, or high using instrument three after the intervention. The researchers received the data via telephone contact to evaluate the effectiveness of the intervention.

This post-test took about 10 minutes for each woman, and the telephone call took about 10 minutes. A comparison was then held between the study and control groups throughout the different phases of the intervention to determine whether there was a remarkable effect on the women's knowledge regarding breast cancer and mastectomy using the interviewing questionnaire before the intervention and after receiving the intervention. Also, the women in the study and control groups were compared for their practices of BSE

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and their coping strategies after the intervention.

### **Statistical analysis**

Data were collected, tabulated, and statistically analyzed using an IBM personal computer with Statistical Package of Social Science (SPSS) version 22 (SPSS, Inc, Chicago, Illinois, USA).

### **Results**

**Table (1)** represents the socio-demographic characteristics of the studied women. Almost 38 % of the study group, compared to 48% of the control group, was between 50-60 years. According to the level of education, less than one-half of the study group (40%) had secondary education compared to 36% in the control group. Regarding marital status, about three-fourth of the study and control groups were married (84% and 70%, respectively). Regarding residence, about two-thirds of the study and control groups were from rural areas (76% and 70%, respectively). Regarding occupation, about two-thirds of the study and control groups were housewives (80.0% and 60 %, respectively).

**Table (2)** clarifies the gynecological and obstetrical histories of the studied women after mastectomy. It displays that there was no statistically significant difference between the study and control groups regarding the gynecological and obstetrical history in items of age of menarche, regularity of menstruation, age at 1st pregnancy, number of pregnancies and abortions, and types of contraception ( $p > 0.05$ ). In addition, there was a highly statistically significant difference in blood lost during menstruation and age of menopause between the study and control groups ( $p < .0001$ ).

**Figure (1):** This figure clarifies the total knowledge score of the studied women about breast cancer pre- and post-intervention. The figure illustrates that there were poor knowledge scores between the study and control groups before the intervention (pre-test) (54.0% & 58.0%, respectively). Almost the whole study group (92.0%) had a good knowledge score post-intervention compared to (4.0%) in the control group. Furthermore, there was a highly statistically significant improvement in the total knowledge scores in the study group from poor knowledge scores (54%) pre-intervention to good knowledge scores (92%) post-intervention.

**Figure (2):** This figure shows the total practice score of the studied women regarding breast self-examination before and after the intervention. The figure shows that the majority of the study and control groups had unsatisfactory practice regarding most items of breast self-examination (92% and 98%, respectively), with no statistically significant difference before the intervention. Most of the study group (90.0%) had a satisfying practice regarding most items of breast self-examination after the intervention compared to (3%) in the control group after the intervention.

**Figure (3):** This figure shows the grand total coping strategies scores of the studied women before and after the intervention. The figure shows that there was a low coping level between the study and control groups (80.0% & 82.0%, respectively) before the intervention, with no statistically significant difference. The majority of the study group (86.0%) had a high coping level after the intervention compared to (0.0%) in the control group.



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**Table (1): Socio-demographic Characteristics of the Studied Women (N=100).**

Variables	Control group N=50		Study group N=50		$\chi^2$	P
	N0.	%	N0.	%		
<b>Age (Years)</b>						
– > 25 - < 30	3	6	3	6	1.1	0.76
– 30 - < 40	9	18	10	20		
– 40 - <50	14	28	18	36		
– 50- 60	24	48	19	38		
<b>Mean ± SD</b>	<b>56.1 ± 2.7</b>		<b>55.3±1.8</b>		<b>t=1.3</b>	<b>0.11</b>
<b>Educational Level</b>						
– Illiterate	17	34	17	34	0.84	0.93
– Basic	10	20	8	16		
– Secondary	18	36	20	40		
– University	5	10	5	10		
<b>Marital status:</b>						
– Married	35	70	42	84	2.8	0.24
– Widowed	10	20	5	10		
– Divorced	5	10	3	6		
<b>Residence:</b>						
– Urban	15	30	12	24	0.45	0.49
– Rural	35	70	38	76		

T= t-test      \* = Signifiant (p≤.05)

**Table (2): Gynecologic and Obstetric History of the Studied Women (N=100).**

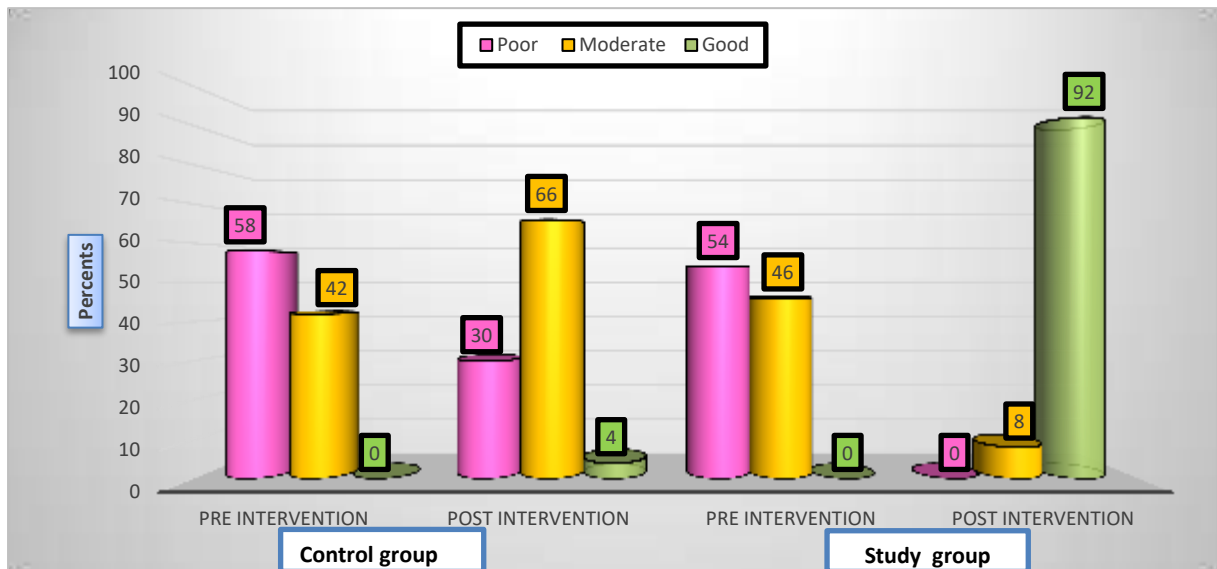
Variables	Control group N=50		Study group N=50		$\chi^2$	P
	N0.	%	N0.	%		
<b>Age of menarche:</b>						
– 12 years	36	72	38	76	1.5	0.46
– 14 years	5	10	7	14		
– 16 years	9	18	5	10		
<b>Age of menopause:</b>						
– 35 years	8	16	0	0	42.1	**<0.0001
– 40 years	17	34	15	30		
– > 55 years	25	50	35	70		
<b>Age at 1<sup>st</sup> pregnancy:</b>						
– 18 Years	3	6	2	4	0.78	0.67
– 25 Years	7	14	10	20		
– > 30 Years	40	80	38	76		
<b>No. of pregnancies:</b>						
– One time	2	4	1	2	1.1	0.78
– Twice	13	26	14	28		
– Three	25	50	28	56		
– > three times	10	20	7	14		
<b>No of abortions:</b>						
– One time	11	22	13	26	0.24	0.97
– Twice	5	10	5	10		
– ≥ Three	4	8	4	8		
– Zero	30	60	28	56		
<b>Types of contraception:</b>						
– OCPs:	30	60	35	70	2.1	0.56
– Injection / month	7	14	3	6		
– Injection / 3 months	8	16	7	14		
– IUDs	5	10	5	10		

FE= Fisher exact test

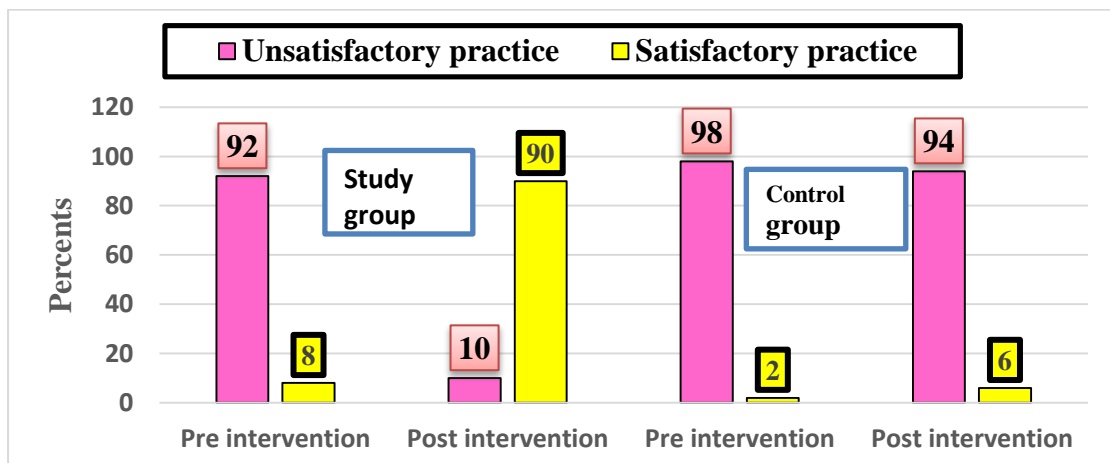
\*\* = highly statistically significant (p≤ .001).

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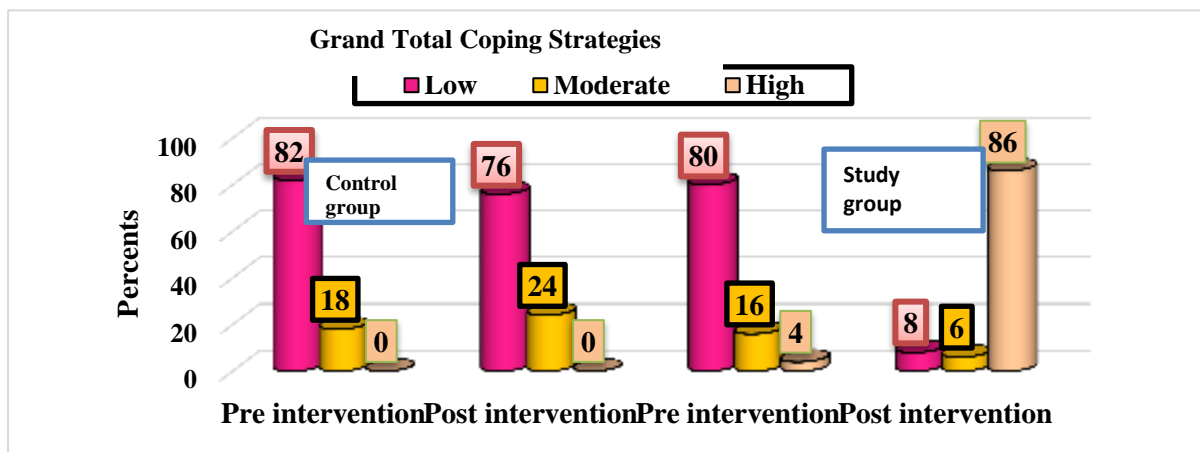
**Figure (1): Total Knowledge Score of the Studied Women about Breast cancer (Before and After the Intervention) (N=100)**



**Figure (2): Total Practice Score of the Studied Women Regarding Breast Self-Examination before and after the Intervention (N=100).**



**Figure (3): The Grand Total Coping Strategies Scores of the Studied Women before and after the Intervention (N=100).**



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### **Discussion**

In relation to overall studied women's knowledge, the results of the current study reported that there was no statistically significant difference between the study and control group before implementing the program related to women's knowledge about definition, risk factors, symptoms, prevention, treatment, and side effects of mastectomy. However, there level of knowledge was poor knowledge, while after implementing the nursing intervention program, total knowledge improved in the study group than the control group with a statistically significant difference between both groups.

According to the current study results, there was a highly statistically significant improvement in the total knowledge scores after implementing the nursing intervention program between the study and the control groups. Also, the researcher emphasized the importance of reinforcement of women's knowledge. These results are in accordance with Hashem et al. (2020), Kisuya et al. (2015) conducted a study in western Kenya entitled "Impact of an educational intervention on breast cancer knowledge", and Wang et al. (2022), who studied "The effects of an educational program on knowledge and intention of breast cancer screening in Taiwan". They clarified that the majority of women in their study had poor knowledge before the application of the nursing intervention program. In relation to the overall studied women's practice regarding breast self-examination, the results of the current study reported that there was no statistically significant difference related to women's practice regarding breast self-examination.

This goes in the same line with Nichol's study (2017) entitled "The

nurse's role in self-breast examination education" in British. Also, this goes in the same line with Shin et al. (2022), who studied "Practice of breast self-examination and knowledge of breast cancer among female university students in Korea", and Alwan et al. (2012) study, entitled "Knowledge, attitude, and practice regarding breast cancer and breast self-examination among a sample of the educated population in Iraq". They found that the total women had unsatisfactory BSE practice before applying to the educational nursing program.

The current study findings reported that there was a highly statistically significant improvement in total women's practice of BSE after implementing the nursing intervention program in the study group than the control group. Also, a highly statistically significant improvement in total women's practice of BSE was observed post-program than before the program among the study group. This can be attributed to the success of the structured training program on the improvement of women's practice levels which included continuous demonstration, re-demonstration, and effective practical content in learning materials (booklets, posters, and videos), which was given to the studied women with continuous explanations, reinforcement, and feedback.

These results are in accordance with Hashem et al. (2020); Carelli et al. (2018) in a study entitled "Knowledge, attitude, and practice of breast self-examination in a female population of metropolitan Sao Paulo" and Moustafa et al. (2015). Also, these findings are similar to Karayurt et al. (2019), who investigated "Effects of peer and group education on knowledge, beliefs, and breast self-examination practice among university students in Turkey" and

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Gupta et al. (2019), who investigated the “Impact of a health education intervention program regarding breast self-examination by women in a semi-urban area of Madhya Pradesh, India”. They clarified that the majority of women in their study had unsatisfactory practice regarding BSE before the application of the nursing intervention program, while they had a highly significant improvement in the total practice scores of BSE after implementing the program. This resulted from the health education package which was given to the studied women and consisted of a seminar, mass media, both printed and electronic, should be utilized and community organizations mobilized to disseminate correct relevant information about BSE to the studied women.

The findings of the present study illustrated that there was no statistically significant difference in the total adaptive coping strategies scores (conscious way of living, positive attitudes, reappraisal, search for alternative help, trust in medical help, and God's help) between the study and control groups before the intervention with low adaptive coping strategies scores. This can be explained by stating that the body change that occurs as a consequence of the disease process will affect the body image, sexual relationship, and marital dysfunction. In addition to the fear associated with lack of knowledge about the disease and its treatment, anxiety regarding the intervention procedures, the knowledge that patients gather from various sources, and finally the thoughts regarding the outcome of the treatment or surgery leads to distress or may be due to poor coping skills of the patient.

This was in accordance with Lundberg & Phoosuwan (2022), who conducted

a study entitled "Life situations of Swedish women after mastectomy due to breast cancer: A qualitative study" in Sewed and Younis et al. (2021), who conducted a study entitled "Effectiveness of psycho-education intervention program on coping strategies among Jordanian women post-mastectomy" in Jordan. Also, this was in accordance with Hussain et al. (2019) who investigated “Exploring lived experiences of married Pakistani women post-mastectomy” in Pakistan and Davies et al. (2017) who conducted a study in the United States entitled "Exploring the lived experience of women immediately following mastectomy: a phenomenological study".

They stated that the women's body image limits their daily lives, and psychological distress reminds them of their disease, which would promote worse coping in that group of patients. Also, the women after mastectomy experienced high levels of related stress, uncertainty, anxiety, fear, and mood disturbance that finally led to using maladaptive coping strategies in posttraumatic stress disorder, depression, anxiety, or both in the year after diagnosis and poor coping skills.

As regards the total adaptive coping strategies after the intervention, the current study reveals that there was a highly statistically significant improvement in the total adaptive coping strategies scores of the study group compared to the control group after the intervention. Also, a highly statistically significant improvement in the total adaptive coping strategies was observed after the intervention compared to before among the study group. This indicates the effectiveness of the program sessions, which were tailored to the needs and interests of the participants. It can be explained that the intervention program helped

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the women identify conditions or situations that affect their emotional status and analyze their thoughts and beliefs about them being rational or irrational. Then, replace these with accurate, rational, and constructive thoughts. In addition, it helped the women accept themselves.

The current study concluded that the nursing intervention program achieved high adaptive coping strategies in the study group women than women in the control group. This finding is consistent with Davari et al. (2022), who conducted a study entitled "The Effect of Religious–Spiritual Psychotherapy on Illness Perception and Inner Strength among Patients with mastectomy in Iran" and Zali et al. (2022), who conducted a study entitled "Mediating Role of Cognitive Emotion Regulation Strategies in the Relationship between Anxiety and Body Image in Women with Breast Cancer Volunteered for Mastectomy" in Tehran, Iran. Additionally, this finding is consistent with Samami et al. (2020), who investigated "Coping strategies-oriented interventions in breast cancer women" in Iran; Hamed et al. (2019); Lin et al. (2022), in England entitled "Educational programs for post-treatment breast cancer survivors" and Younis et al. (2021).

They stated that by reframing illness perception and building inner strength, spiritual and religious-based interventions may improve patients' coping with cancer and improve the quality of life for hospitalized women with breast cancer for mastectomy. This was contradicted by a study conducted by Ali et al. (2017), entitled "The Effect of Psycho-Educational Nursing Program on Coping and Quality of Life of Patients Undergoing Chemotherapy" in Egypt, and Yamani Ardakani et al. (2020)

entitled "Body image and its relationship with coping strategies: The views of Iranian breast cancer women following surgery".

The majority of coping strategies used by Iranian women to cope with breast cancer surgery were positive on religious faith, with no statistically significant difference between both groups' pre- and post-intervention regarding trust in medical and God's help only as adaptive coping strategies. This contradiction is due to early diagnosis and management of any psychiatric disturbance, especially depression, which would promote better coping in that group of women. The findings of the current study supported the three research hypotheses were and failed to accept the null hypothesis.

### **CONCLUSION**

According to the findings of the present study, it can be concluded that there was a higher statistically significant increase in total knowledge scores regarding breast cancer and mastectomy after implementing the nursing intervention. This supported the first study hypothesis. Also, the present study showed that there was a higher statistically significant increase in practice scores regarding breast self-examination after applying the nursing intervention. This supported the second study hypothesis. In addition, the implementation of the nursing intervention was effective, and there was a higher statistically significant increase in coping strategies scores after applying the nursing intervention. This supported the third study hypothesis. Therefore, the findings of this study supported the study hypotheses and failed to accept the null hypothesis.

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### **Recommendations**

**Based on the findings of the current study, the following recommendations are proposed:**

- Women after mastectomy are advised to receive ongoing knowledge and skills regarding adaptive coping strategies as a part of their nursing care from maternity nurses.
- Women after mastectomy are encouraged to participate in psychological nursing interventions as part of their regular nursing care at Maternal and Child Health (MCH) Centers of Ministry of Health and Population at the national level.
- A colored illustrated educational booklet is recommended to be available and distributed to all women after mastectomy.
- Conduct a longitudinal study to assess patient's responses, coping processes, and adaptation to mastectomy.
- Further research needs to be conducted on a larger sample size in different hospital settings to attain more generalized results.

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