

Women's Self-Care Practices Improvement Strategy regarding Post-Surgical Complications of Breast Cancer

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Abstract

Background: Breast cancer is a significant health problem worldwide, and a complex disease physically and psychologically. Mastectomy is not an easy decision for any woman as it leads to changes in everyday life and has significantly negative influence on those women body image. **Aim:** The present study aimed to evaluate the effect of women's self-care practices improvement strategy regarding post-surgical complications of breast cancer. **Design:** A Quasi experimental research design was used. **Setting:** The study was conducted at Beni-Suef University Hospital at Oncology Outpatient Clinics & Surgical Department (Oncology Ward). **Sample:** A Convenient sample of 80 women was included in the study. **Tools:** Four tools were utilized for data collection; Tool I: A Structured interviewing Questionnaire sheet: which divided into two parts: Part I: socio-demographic data, Part II: A) obstetric and menstrual history B) Medical and surgical history. Tool II: Self-Care Questionnaire, Tool III: Measure of arm symptoms survey which divided into two parts. Part I: Used to assess the potential risk factors for arm lymphedema, Part II: Used to assess the severity of arm symptoms, and Tool IV: Body Image Scale. **Results:** There was a highly statistically significant improvement in women self-care practices regarding post-surgical complication of breast cancer at post intervention phase. **Conclusion:** Implementation of improvement strategy enhance women's practices regarding post-surgical complication of breast cancer. **Recommendation:** Increase awareness program and different educational programs should be available at the hospital to be taught to the patients to increase their satisfaction with care presented to them.

Key words. Breast Cancer, Improvement Strategy, self-care practice.

Introduction

Breast cancer has a very long history as it was first reported by the ancient Egyptians more than 3500 years ago in about 1500 BC. Today, breast cancer is the second most prevalent type of cancer and is a leading cause of most cancer-related deaths in women in the United States (Williams, 2019).

Around 281,550 women are projected to be diagnosed with breast cancer in 2021,

and 43,600 women are predicted to die due to breast cancer in the US, according to the American Cancer Society. Early diagnosis of the disease is crucial for effective treatment and positive prognosis, as significantly lower probability of dying and higher survival rate is observed in patients with smaller tumors at the time of diagnosis. Early detection of breast cancer and accurate lesion assessment are, therefore, the primary focus of all

imaging modalities. At present the two major pillars to be addressed for effective management of breast cancer disease include: (i) diagnosis of breast cancer in its earliest stages and (ii) providing timely treatment after diagnosis to save lives (**Orji and Takashi .2021**).

Breast cancer treatment is a multimodal treatment and includes surgery, radiotherapy, chemotherapy and hormonal therapy. Axillary lymph-node dissection and/or external beam radiotherapy represent an important component in the treatment of the great majority of invasive breast cancer. The treatment of this condition depends on its staging, with surgical removal of the tumor constituting an important step in an attempt to cure the disease (**Duggan et al. 2020**).

Mastectomy or breast-conserving surgery is a cornerstone of disease management for stage I-III breast cancer. Mastectomy is a term used to describe a variety of surgical procedures for the treatment of breast cancer that involves the partial or complete removal of the breast tissue. There are many different types of mastectomy identified as simple or total, modified radical, radical, subcutaneous and nipple sparing mastectomy which followed by chemotherapy, radiotherapy, hormonal therapy or combination of therapies (**Miller et al. 2016**).

Significance of the study:

Breast cancer is the most important cancer, with women in an increasing numbers in incidence developing countries. In 2018, it is estimated that 627,000 women died from breast cancer – that is approximately 15% of all cancer deaths among women globally. It is by far the commonest cancer among Egyptian women and represents 37% of all female cancers. It impacting 2.1 million women each year and also causes the greatest number of cancer-related deaths among women. While breast cancer rates are higher among women

in more developed regions, rates are increasing in nearly every region globally (**Williams, 2019**).

In addition, inadequate self-care practices remain a significant problem facing health care providers in all settings and populations. Based on the previous researches, it was noted that inadequate self-care practices pose a threat to satisfactory outcome. It was emphasized on the impact of adequate self-care practices on the Woman's morbidity and mortality and on increasing the costs of medical treatment as cost of medication, cost of laboratory tests and cost in time and effort of the care providers in addition to the frustration for both the Woman and the care providers. In contrast, other studies reported that the patients who had adequate self-care practices had better outcomes, live longer, enjoy a higher quality of life, and suffer fewer symptoms and complications (**Osuji et al.,2019**). Besides, this study was not carried out in the faculty of nursing, Banha University, for that reason the researcher had to carry it out **so**; this study will be conducted to evaluate the effect of improvement strategy on women's self-care practices regarding post-surgical complication of breast cancer.

Aim the study:

The aim of this study was to evaluate the effect of women's self-care practices improvement strategy regarding post-surgical complications of breast cancer.

Research Hypothesis:

Women's with breast cancer who receive women's self-care practices improvement strategy will be improved self-care practices regarding post-surgical complications of breast cancer compared to before application of improvement strategy

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Subjects and Methods

Study Design:

A quasi- experimental (pre- posttest) study design was used to achieve the aim of the current study

Setting:

The current study was conducted at oncology outpatient clinics & surgical department (oncology inward) at Beni-Suef university Hospital.

Subjects:

A convenient sample of eighteen women coming at the previously mentioned settings.

Tools of data collection:

Four data collection tools were used to carry out the current study namely; a structured interviewing questionnaire sheet, self-care questionnaire, measure of arm symptoms, body image scale.

Tool I: A Structured interviewing

Questionnaire sheet:

It was developed by the researcher based on review of pertinent literature. It aimed to gather information related to women and divided into two parts:

Part I: Demographic data such as age, education, job status, Husband's education, residence, Marriage age, family income.

Part II: A) Obstetric and menstrual History

B) Medical and Surgical History .

Tool II: Self-Care Questionnaire: This tool was developed by (Garcia et al.2012) and adopted by the researcher. It consists of four sections, the first section composed of (8) questions regarding physical wellbeing. The second section composed of (7) questions regarding social and family wellbeing. The third section composed of (6) questions regarding emotional wellbeing. The fourth section composed of (7) questions regarding functional wellbeing. The four section

composed of (27) questions regarding self-care practices.

Scoring system:

Responses of the women were measured on five points; Likert scale (not at all, relatively few, some-what, rather few and very much).

- The responses for 12 questions were as follows: Not at all= 0, relatively few= 1, some-what= 2, rather few= 3 and very much= 4.
- The responses for other 16 questions were as follows: Not at all= 4, relatively few= 3, some-what= 2, rather few= 1 and very much= 0. These questions are: Q 8-14, Q 16 and Q 21-27.
- Total score was 108, it was considered that the lower the score is adequate level of self-care.
- The total level of self-care is considered as follows:
 - Adequate if score < 60% of total score that mean (< 65 score).
 - Inadequate if score ≥ 60 % of the total score that mean (≥ 65 score)

Tool III: Measure of arm symptoms survey Version 3 (MASS): This tool was developed by (Swenson et al., 2009) this tool is divided into two parts.

Part I: it was used to assess the potential risk factors for arm lymphedema as diabetes mellitus, Hypertension, smoking, past shoulder injury, exercises, and medical procedures as (blood pressure, Intra venous), arm /hand injury, radiation, reconstructive surgery, etc.(11 questions)

Part II: it was used to assess the severity of arm symptoms including pain, swelling, range of motion and heaviness. (4 items).

Scoring system

Part I: responses of the women were measured on two points; (yes=1 and no=0).

Part II: responses of the women were measured on five points; Likert scale ranging from (not at all= 0, relatively few= 1, somewhat= 2, rather few=3 and very much= 4).

- Total score was 16, it was considered that the lower the score the good symptoms. The total level of severity of arm symptoms is considered as follows:
- Good symptoms if score < 60% of total score that mean (< 10 score).
- Poor symptoms if score ≥ 60 % of the total score that mean (≥ 10 score)

Tool IV: Body Image Scale: this questionnaire used to women's feelings about appearance, and about any changes that may have resulted from disease or treatment. It composed of 10 questions. This 10-item scale was constructed in collaboration with the European Organization for Research and Treatment of Cancer (EORTC) designed by (Hopwood et al, 2001).

Scoring system:

Responses of the women were measured on five points; Likert scale (not at all= 1, a little= 2, quite a bit= 3 and very much= 4).

- Total score was 40, it was considered that the lower the score the good body image. The total level of body image scale is considered as follows:
- Good body image if score < 60% of total score that mean (< 24 score).

- Poor body image if score ≥ 60 % of the total score that mean (≥ 24score)

Supportive material (Arabic Booklet):

It was designed by the researcher based on literature review. It was designed in the form Booklet using simple arabic language and different illustrative pictures in order to facilitate understanding its content. It contained information about breast cancer

Tools Validity:

Face and Content validity of the study tools was assessed by jury group consisted of three experts in Obstetrics and Gynecological Nursing department of Faculty of Nursing, Banha University for comprehensiveness, accuracy and clarity in language.

Tools Reliability:

The study tools were tested for its internal consistency by Cronbach's Alpha. Reliability of the study tools was mentioned in the following table

Tools	Cronbach's Alpha	internal consistency
Self-Care Questionnaire	.974 (Garcia et al.2012)	Good
Arm Symptoms Survey (MASS)	.726 (Swenson et al., 2009)	Good
BODY IMAGE SCALE	.97.1 (Hopwood et al, 2001)	Good
Total Tools	.865	Good

Ethical Consideration:

Prior study conduction, ethical approval was obtained from the scientific research ethical committee of the faculty of nursing, Banha University.

The researcher met both medical and nursing directors of the hospital to clarify the aim of the study and take their approval. The researcher also met the study subjects to

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explain the purpose of the study and obtain the approval to participate in the study. They were reassured about the anonymity and confidentiality of the collected data, which was used only for the purpose of scientific research. The subjects' right to withdraw from the study at any time was assured.

Pilot study:

Pilot study was carried out on 10% of the total study sample (8 women) to evaluate the applicability, efficiency, clarity of tools, assessment of feasibility of field work, beside to detect any possible obstacles that might face the researcher and interfere with data collection. Necessary modifications were done based on the pilot study findings such as (omission of some questions from tool) in order to strengthen contents or for more simplicity and clarity. The pilot sample was excluded from the main study sample.

Field work

Data collection of the study was started at the beginning of September 2020 and completed by the end of May 2021. The field work of this study was carried out through assessment, planning, implementation, and evaluation phases.

Assessment phase:

The researcher attended at Beni-Suef university Hospital (oncology outpatient clinics & surgical department) two days per week from 9am to 2pm. The researcher introduced herself to the women, explained the aim of the study and its implications, and ensures their cooperation. Then oral consent of women was obtained.

The researcher started to fill the interview questionnaire sheet to assess women's socio-demographic characteristics, data related to diagnosis of breast cancer, type of surgery and others treatment modalities. Self-care questionnaire sheet, Measure of arm symptoms and body image questionnaire also

had been assessed. It took from 20 to 30 minutes, each tool ranged from 5 to 7 minutes.

Planning phase:

Based on the analysis of the data obtained from the assessment phase, and review of the related literature, the researcher obtained women at oncology clinic or at surgical ward (in patient room), and plan the orientation process with the head nurse of the department. The audiovisual aids as data show also booked.

Implementation phase:

The self-care practice improvement strategy was implemented in the training halls at the study settings. The researcher started to explain the improvement strategy of self-care practice for the women (Arabic booklet) in the form of lectures, three sessions were conducted at hospital. The first session the researcher explains the aim of the study, objectives, plan, and content of the improvement strategy. At the beginning of each session the objectives of the session were explained. and through them the researcher explained overview about breast cancer, causes and risk factors, types, Mastectomy, complication after surgery, and medical treatment of breast cancer, chemotherapy and radiation treatment.

Also, two sessions (second and third session) were conducted to each woman at hospital; it includes exercise after surgery, care of wound, side effects of cancer treatment and its management, prevention of lymphedema, indoor arm care, outdoor arm care and Nutrition. In each session the number of studied women was ranged from three to five women.

Each session was started by a summary about what has been discussed in the previous session and the objectives of the new session,

using a simple Arabic language, also the session ended by a summary of its content and feedback from the women to ensure that the women got the maximum benefits. The researcher also communicated with women via telephone call or E-mail for instruction and reinforcement.

Evaluation phase:

After implementing the orientation program about women's self-care practices regarding post-surgical complication of breast cancer, evaluation of women's self-care practices was done one month after implementation of the orientation using the same data collection tools used at the assessment phase for measuring women's self-care practices and determine the effect of improvement strategy. Evaluation phase completed by the end of May 2021.

Statistical analysis:

Data were summarized, tabulated, and presented using descriptive statistics in the form of frequencies and percentages for qualitative variables. A statistical package for the social science (SPSS), version (26) was used for statistical analysis of the data, as it contains the test of significance given in standard statistical books. Qualitative data were expressed as a percentage. Qualitative variables were compared using chi-square test. The confidence level chosen for the study was 95%. Probability (P-value) is the degree of significance, less than 0.05 was considered significant. The smaller the P-value obtained, the more significant is the result , less than 0.001 was considered highly significant and the correlation coefficient was done by using the Pearson correlation test. Chi-square test is a way to test the association between two categorical variables

Results

Table 1: Shows that nearly half (45%) of women were ≥ 50 years, more than one quarter (28.7%) of them had primary

education. Nearly two third (65%) of women were employed. More than one third (37.5%) of women's husband had higher education. Nearly half (47.5%) of women were marriage at 20 -<40 years. Nearly two thirds (65%) of women had enough income.

Table 2: Shows that there is highly statistically significant improvement in women's total practice regarding self-care wellbeing and their sub-categories in the pre intervention phase compared to the post intervention phase.

Table 3: Shows that the highest percentage of women presence of risk factors for arm swelling in the following items; Hand / arm injury, the operation is on the side of the dominant hand, Diabetes, and Hypertension (51.3%, 42.5%, 35%, & 35% respectively). Nearly half (48.8%) of women had all risk factors for arm swelling

Figure 1: Shows that there was highly statistically significant improvement in women's total severity symptoms in the pre intervention phase compared to the post intervention phase.

Table 4: Shows that there is highly statistically significant improvement of women according to severity of arm symptoms in the pre intervention phase compared to the post intervention phase

Table 5: Shows that there is highly statistically significant improvement of women according to perception of their body image in the pre intervention phase compared to the post intervention phase.

Figure 2: Shows that there was highly statistically significant improvement in women's total body image scores in the pre intervention phase compared to the post intervention phase.

Table 6: Shows that there is a statistically significant relation between women's total self-care scores and ages and residence.

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While there is no statistically significant relation between women's total self-care scores and level of education, marriage age, and family income.

Table 7: Shows that, there was a positive correlation between women's total self-care

scores and body image. There was a negative correlation between women's total self-care and severity symptoms, also, there was a negative correlation between women's total severity symptoms and and body image.

Table (1): Demographic characteristics of the studied women (n=80).

Demographic characteristics		No.	%
Age			
-	20:<30 years	12	15
-	30:<40 years	9	11.3
-	40:<50 years	23	28.7
-	≥50 years	36	45
Mean±SD		46.41±11.21	
Level of education			
-	Illiterate	13	16.3
-	Primary education	23	28.7
-	Secondary education	25	31.3
-	Higher education	19	23.7
Marriage age			
-	Not married	2	2.5
-	<20 years	40	50
-	20 -<40 years	38	47.5
-	≥ 40 years	0	0
Family income			
-	Enough	52	65
-	Not enough	28	35
Husbands' level of education			
-	Illiterate	13	16.25
-	Primary education	17	21.25
-	Secondary education	20	25
-	Higher education	30	37.5
Employment			
-	Employed	52	65
-	Not Employed	28	35

Table (2): Distribution of women's total self-care practices at pre and post application of improvement strategy (n = 80).

Items		Adequate		Not adequate		X ²	P Value
		N	%	N	%		
Physical wellbeing	Pre	14	17.5	66	82.5	112.3	.000**
	Post	74	92.5	6	7.5		
Social/family wellbeing	Pre	30	37.5	50	62.5	72.8	.000**
	Post	80	100	0	0		
Emotional wellbeing	Pre	7	8.8	73	91.3	134.2	.000**
	Post	75	93.75	5	6.25		
Functional wellbeing	Pre	20	25	60	75	96.1	.000**
	Post	79	98.75	1	1.25		
Total self-care practice	Pre	10	12.5	70	87.5	124.5	.000**
	Post	70	90	10	10		

Table (3): Distribution of the studied women according to presence of risk factors for arm swelling (n=80).

Risk factors for arm swelling	No.	%
1- Diabetes	28	35
2- Hypertension	28	35
3- Smoking	9	11.3
4- Obesity	12	15
5- The operation is on the side of the dominant hand	34	42.5
6- Infection	18	22.5
7- Hand / arm injury	41	51.3
8- Medical procedure in the affected arm	3	3.8
9- Lifting more than 10 kilograms	11	13.8
10- Radiation	2	2.5

*Women had more than one answers.

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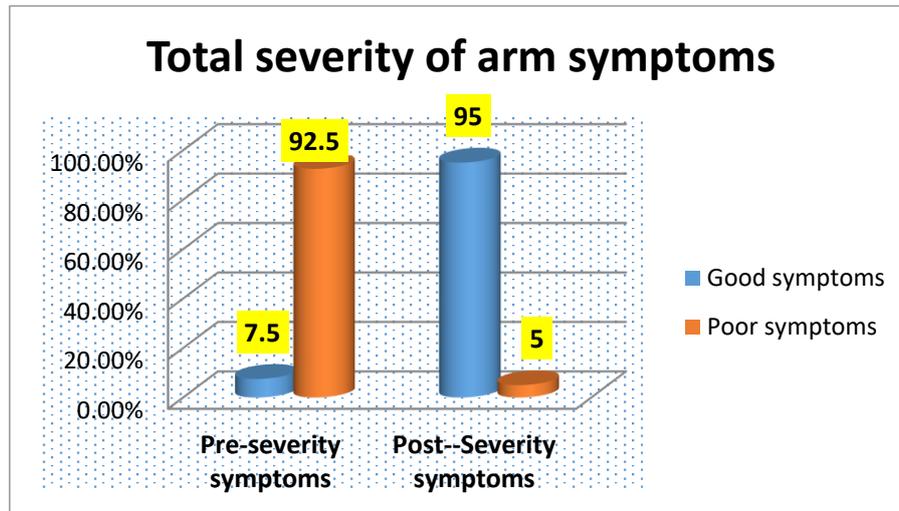


Figure (1): Distribution of women according to total severity of arm symptoms at pre and post application of improvement strategy (n = 80)

Table (4): Distribution of women according to severity of arm symptoms at pre and post application of improvement strategy (n = 80).

Items		Not at all		Relatively few		Some-What		Rather few		Very Much		X ²	P Value
		N	%	N	%	N			%	N	%		
Pain	Pre	0	0	6	7.5	41	51.2	33	41.3	0	0	140.8	.000**
	Post	54	67.5	24	29.25	4	2	1	1.25	0	0		
Swelling	Pre	0	0	6	7.5	39	48.8	35	43.8	0	0	139.3	.000**
	Post	42	52.5	38	47.5	0	0	0	0	0	0		
Range of motion	Pre	0	0	0	0	24	30	56	70	0	0	160.1	.000**
	Post	54	67.5	26	32.5	0	0	0	0	0	0		
Numbness	Pre	0	0	0	0	26	32.5	54	67.5	0	0	135.5	.000**
	Post	53	66.3	19	23.8	8	10	0	0	0	0		

Table (5): Distribution of women according to perception of their body image at pre and post application of improvement strategy(n = 80).

Items		Never		A little		Pretty much		Very much		X ²	P Value
		N	%	N	%	N	%	N	%		
1- Feeling low self-conscious about appearance	Pre	0	0	12	15	40	50	28	35	124.5	.000**
	Post	45	56.4	34	42.5	1	1.1	0	0		
2- Feeling less physically attractive	Pre	0	0	0	0	30	37.5	50	62.5	160.1	.000**
	Post	47	59.2	30	37.5	0	0	3	3.3		
3- Dissatisfaction with appearance when dressed	Pre	0	0	6	7.5	19	23.8	55	68.8	141.3	.000**
	Post	59	73.8	21	26.3	0	0	0	0		
4- Feeling less feminine as a result of the disease	Pre	0	0	0	0	42	52.5	38	47.5	160.1	.000**
	Post	56	70	24	30	0	0	0	0		
5- find difficulty to look at themselves naked	Pre	0	0	6	7.5	40	50	34	42.5	139.1	.000**
	Post	39	48.8	41	51.2	0	0	0	0		
6- Feeling less sexually attractive	Pre	0	0	5	6.3	40	50	35	43.8	163.1	.000**
	Post	56	70	24	30	0	0	0	0		
7- Avoid people because of the way felt about appearance	Pre	0	0	13	16.3	40	50	27	33.8	125.8	.000**
	Post	55	68.8	25	31.3	0	0	0	0		
8- Feeling the treatment has left body less whole	Pre	0	0	5	6.3	39	48.4	36	45	142.4	.000**
	Post	44	55	36	45	0	0	0	0		
9- Dissatisfaction with body	Pre	0	0	7	8.8	40	50	33	41.3	137.2	.000**
	Post	49	61.3	31	38.8	0	0	0	0		
10- Dissatisfaction with the appearance of scar	Pre	0	0	5	6.3	50	62.5	25	31.3	144.2	.000**
	Post	61	76.3	19	23.8	0	0	0	0		

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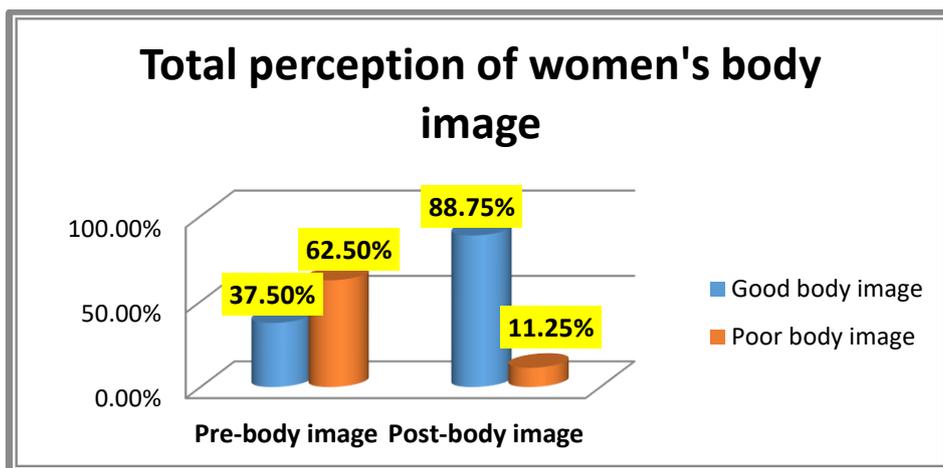


Figure (2): Distribution of women according to total perception of body image at pre and post application of improvement strategy (n = 80).

Table (6): Correlation between women's total self-care, severity symptoms, and body image scale (n = 80).

		Total self-care	Total severity symptoms
Total self-care	r		
	p-value		
Total severity symptoms	r	-.824	
	p-value	.000**	
Total body image	r	.711	-.592
	p-value	.000**	.000**

Discussion

Breast cancer is an important global public health problem due to its high incidence and mortality. Women's experience of breast cancer is complex, affecting all aspects of life during and after treatment, moreover, may experience a feeling of disability because they are unable to manage daily activities and is unable to care for themselves as well as families (**Hamidian et al., (2019)**).

An educational supportive strategy could help patients with cancer in acquiring or maintaining the skills needed to manage their

life with a chronic disease and maintain a healthy lifestyle to optimize health and satisfaction. So, the current study aimed to evaluate the effect of women's self-care practices improvement strategy regarding post-surgical complication of breast cancer.

Regarding the demographic characteristics of the study sample, the current study revealed that nearly half of women were ≥ 50 years, more than one quarter of them had primary education. Nearly two third of women were employed. More than one third of women's husband had higher education. More than three fifth of women were lived in urban area. Nearly half of women were

marriage at 20 -<40 years. Nearly two thirds of women had enough income.

Regarding to Age: The current study revealed that nearly half of women were ≥ 50 years and one third of them were from forty to fifteen, similar demographics were reported by **Soliman et al. (2018)** who revealed that the mean age of the study highest percentage of studied women was above 40 years .Also **Shabaan,(2013)** in a study carried out about “Effect of educational program regarding therapeutic exercises for women undergoing mastectomy”, who mentioned that the majority of studied samples ranged in age between 40-55 years.

From the researcher point of view; this finding may be justified that aging process is one of the most important risk factors of breast cancer because of the longer life expectancy, changes in reproductive patterns in women over 40 years, menopausal hormonal use, rising prevalence of obesity, and genetic damage(mutations) in the body at this age.

In relation to marital status, the majority of patients were married, the minority were divorced and widowed. These results are in agreement with **Hamed et al., (2019)** and **Hawash et al., (2018)** those who discovered that, the majority of patients in the control and study groups were married.

Also, the current results revealed that, more than three quarter and near two third were married and had more than three children respectively. This comes in agreement with **Abd El Razik, (2010)** .From the researcher point of view; this could reflect Egyptian culture which encourage early marriage and lots number of children, and this might reflect the load that is experienced by the married women through their roles in caring of their families that result in increasing the stress on their arms which increases lymphedema risk.

This finding was in disagreement with the result by **Soliman et al., (2018)** who revealed that the majority of the study group was widowed.

Regarding level of education, the results of the current results revealed that, more than one quarter and one third of them of was had primary education and secondary education respectively. From the researcher point of view; this can be interpreted by the educated women can get more information sources about their condition through the internet or media than illiterate women. Also, educational level can highly affect patients ‘perception of the tumor, thus influencing the level of early detection, diagnosis, and treatment these finding.

In contrast to the current study, **Aboul-Enien et al., (2018)** who found that, more than one half of studied subjects couldn't read and write.

With reference to Employment, nearly two third (65%) of women were employed. From the researcher point of view those women work for a long period, perform heavy physical workload, and carry heavy object stress on the arm and acted as a risk factor to develop lymphedema for those women, this might indicate that, the nature of work had been caused mechanical findings, These were consistent with the study conducted about "Management of breast cancer related lymphedema" by **Ding et al.,(2020)** who stated that occupations requiring excessive use of the extremity increase breast cancer related lymphedema risk and aggravate its symptoms.

Also; this finding agrees with the study about "Assessment of health related knowledge and practices among female patients with lymphedema post mastectomy" by **Hawash et al.(2018)** who reported that the majority of women with breast cancer came from urban areas

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These results are disagreement with **Pranjić et al., (2014)** who found that, over half of the studied patients were housewives.

In addition to residence, the current study revealed that about More than two thirds of women were lived in urban area.

Regarding women's total self-care practices; there were highly statistically significant improvement in women's total practice regarding self-care wellbeing and their sub-categories (physical, emotional, functional, social and family wellbeing in the pre intervention phase compared to the post intervention phase. From the researchers' point of view, these results could be related to the fact that patients feel exhausted physically and spirituality with chemotherapy and radiotherapy as patients experience a variety of physical changes that in turn trigger the patient's emotional reactions, after implementing the improvement strategy through the friendly sessions, open and simple explanation and, giving the patients the chance to ask questions, listening to their feelings and complains, relieved their fear and anxiety.

In addition, the women counseling and availability of the other spouses during sessions give a chance to patients to express their internal feelings as they can talk without shame about their sexual issues, body image, and self-esteem in a more relaxed environment, these interventions lead to obvious improvement outcomes.

This finding were supported with **Soliman et al., (2018)** who demonstrated that the majority of the patients had adequate self-care practices and arm morbidity minimized during the follow-up period. In this study the patients were motivated to use and maintain arm and shoulder exercises through teaching the benefits of the exercises, which in turn, motivated them to apply and

adhere to regular exercise, learning support by the researcher and effective learning materials (booklet, and poster), also family support while exercising, all contributed on the patients to comply with the exercises program.

Similarly, to **Rastegar et al., (2020)** obtained a greater improvement in the digestive health, physical, psychological and mental health, skin health, self-care knowledge, sexual health and general self-care dimensions in the intervention group compared to the controls immediately and three weeks after counselling.

However, regarding risk factors of lymphedema, the results of the present study revealed some risk factors which may predispose the studied patients for lymphedema. However, one third of them were diabetic, hypertensive and had the surgery in the side of dominant hand. Also, about two third of women had received radiotherapy. From the researcher point of view; thus had put an extra stress and effort on the researcher to overcome and prevent complication post mastectomy and refer to the importance of application of developed improvement strategy to avoid lymphedema. **Taghian et al.,(2014)** found when examined predictors of lymphedema following breast cancer surgery that cases and controls did not differ significantly in current age, age at time of surgery, personal history of diabetes or hypertension, smoking history(ever/never), or having a prior medical condition limiting their hand or shoulder movement. Body mass index (BMI) was significantly higher in cases than controls.

In addition, **Ammitzbøll et al., (2017)** focused on examining factors that may influence the development of arm lymphedema following breast cancer treatment and concluded that, women treated

for breast cancer with axillary node dissection with or without adjuvant radiotherapy could maintain their level of physical activity and occupational workload after treatment without an added risk of developing arm lymphedema. On the other hand, a higher BMI before and after operation increases the lymphedema risk.

Regarding to severity of upper limb symptoms; the current study showed that there was a highly statistically significant improvement of women according to severity of arm symptoms in the pre intervention phase compared to the post intervention phase. From the researcher point of view, this might be due to women's understanding for the problem and good maintenance of self-care practices. This is congruent with **Gautam et al., (2011)** who found that the prescribed patients 'training program had positive effect on the participants who reported improvement in their affected upper-limb health (i.e., decreased pain, heaviness, and stiffness) resulting from breast cancer treatments and also led to improved quality of care.

Rastegar, et al., (2020) found that the pain intensity score reduced significantly in the intervention group compared to the controls against the baseline score, and concluded that using a psychological intervention within a self-care framework can improve the management of cancer pain.

In relation to pain disability, the current study revealed high statistical improvement in pain disability in post intervention phase as compared to pre intervention, these results were in the same line with **Rageh , (2013)** who added that most surgeons recommended a program of early graduated shoulder mobilization within the patients tolerance of pain starting on the first postoperative day.

According to the results of the current study, range of motion and heaviness of upper

limb improved to more than one third and the minority of them had moderate limited range of motion and heaviness of upper limb respectively at one-month post- intervention. This goes in the same line with **Sisman et al., (2012)** added that the patients who were informed by a trainer nurse about the precautions they should take to prevent the development of lymphedema. The patients were also trained for the appropriate exercises and were given written educational material prepared by the researchers showed an improvement of range of motion and heaviness of upper limb.

In relation to upper limb swelling post-mastectomy, the current study results showed, the majority of the studied patients had no swelling at 1-month post-intervention. While, only five cases and two cases had mild swelling. This is supported with **Corrado et al. (2018)**, who reported that the home exercise program is an effective tool to prevent upper limb dysfunction in breast cancer survivors. Therefore, it should always be recommended to such patients, since it positively influences their quality of life and improves the function of the upper limbs.

Also ;the results of **Sato, et al. (2014)**, who measured arm function in a week, a month and three months after the operation, indicated that the educational program improved post-operative function and discomfort in the upper part of the arm in patients with breast cancer undergoing surgery compared to patients in the control group who received only routine treatments.

The present study showed that there is highly statistically significant improvement of women according to perception of their body image in the post intervention phase compared to the pre intervention phase. Similar findings were reported by **Carminatti et al., (2019)** as significant differences were observed between pre- and post- intervention

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in Body image, but not in self-esteem. Improvement of femininity and confidence were reported by spontaneous reports during the classes.

In the same line with **Richard et al., (2019)** who reported The intervention had a positive effect on the women's BI, and self-esteem.

In contrast, **Andreis, (2018)** found that there was no significant effect on body image after psycho- educational program for women with mastectomy

Regarding correlation between total self - care scores, total severity arm symptoms and body image there was a positive correlation between women's total self-care scores and their body image. There was a negative correlation between women's total self-care and their severity symptoms, also, there was a negative correlation between women's total severity symptoms and their and body image.

The results of the current study support the idea that, before the intervention, the medical staff should carefully take into account the body image that each patient experiences. In fact, patients affected by breast cancer have a multidimensionality of the problems like functional, psychological, and social ones which make this disease one of the best candidates for multidisciplinary intervention.

The multidimensionality of the problem implied that the intervention changed the body image that, in turn, could affect the effectiveness of the intervention in a complex dance of circular causation. Then, the multidisciplinary implies the need of an educational part of the intervention as time spent in knowing patients' needs and in providing correct information for managing sequelae and side effects during rehabilitation as well as after rehabilitation with a pamphlet, similarly to previous interventions **Morone et**

al., (2012). As strongly affirmed in the cancer rehabilitation, the intervention should aim at achieving full functional, psychological, social, and educational improvement for the patients within the limits imposed by the disease.

Similarly to **Begovic-Juhant et al., (2021)** who reported low body image, attractiveness, and femininity positively have been found correlated with depression, impacting negatively quality of life among women with breast cancer

These relation were consistent with **Paterson et al., (2016)**who reported after breast cancer treatment, quality of life may be changed in psychological (anxiety, depression), social functioning (professional, family life), physical conditions, body image, and sexuality dimensions.

Finally, these physical losses and changes produce cognitive, behavioral, and emotional alterations, which affect the well-being of women, and their self-esteem (**Ljungman et al. (2018), Valverde et al., (2014)**). This is because, for many women, self-esteem is based exclusively on the perception of their own body, so that poor perception of this can lead to a decrease in self-esteem and, at the same time, negatively affect a person's daily life (**Bratovic et al., 2015**).

Conclusion:

There were highly statistically significant improvement in women's total practice regarding self-care wellbeing and their sub-categories in the post intervention phase compared to the pre intervention phase, Also, there were highly statistically significant improvement in women's total severity symptoms in the post intervention phase compared to the pre intervention phase and finally there were highly statistically significant improvement in women's total body image perception scores in the post

intervention phase compared to the pre intervention phase.

Recommendations:

- ✚ Increase awareness program and different educational programs should be available at the hospital to be taught to the patients to increase their satisfaction with care presented to them.
- ✚ Involvement the family of post mastectomy women in psycho educational programs is necessary to teach them how to support the patients socially and psychologically.
- ✚ A home-based program should be done to effectively improve the affected upper-limb symptoms to improve quality of care of breast cancer patients.

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استراتيجية تحسين ممارسات الرعاية الذاتية للسيدات فيما يتعلق بمضاعفات سرطان الثدي بعد الجراحة

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يعد سرطان الثدي أحد أكثر الأورام شيوعاً عند السيدات ، حيث يمثل 16% من جميع السرطانات النسائية وأكثر من 1.2 مليون حالة يتم تشخيصها سنوياً في جميع أنحاء العالم. وتعتبر مشكلة صحية عامة عالمية. وبسبب التحسينات في تشخيص المرض وعلاجه ، فإن السيدات المصابات بسرطان الثدي لديهن معدل بقاء بنسبة 90 % في 5 سنوات ، وحوالي 80 % في 10 سنوات ، على الرغم من أن الناجين واجهوا العديد من المشاكل الصحية العقلية والجسدية. لذلك هدفت الدراسة الحالية إلى تقييم تأثير استراتيجية تحسين ممارسات الرعاية الذاتية للسيدات فيما يتعلق بمضاعفات سرطان الثدي بعد الجراحة. وقد اجريت هذه الدراسة في العيادات الخارجية للأورام وقسم الجراحة للأورام بمستشفى بني سويف الجامعي علي عدد ثمانون سيده بعد استئصال الثدي. حيث كشفت النتائج عن تأثير تطبيق استراتيجية ممارسات الرعاية الذاتية للسيدات بان لها تأثير ايجابي في تحسين ممارسات الرعاية الذاتية للسيدات فيما يتعلق بمضاعفات سرطان الثدي بعد الجراحة. كما اوصت الدراسة الي انه يجب توفير برامج مختلفة للرعاية الذاتية داخل المستشفى و تعليمها للسيدات المصابات بسرطان الثدي لزيادة رضاهم عن الرعاية الصحية المقدمة لهم ، وتحسين نوعية حياتهم ، مما يقلل بدوره من عبء العلاج على المستشفى من خلال الوقاية أو تقليل المضاعفات بعد استئصال الثدي.