Home Health Care Intervention for Women after Mastectomy

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Abstract

Background: Mastectomy is life-changing procedure that can have phyical, psychological and emotional effects on the women. Home helth care can help women to improve their knowledge and practices after mastectomy. **Aim** of the study: Was to evaluate home health care intervention for women after mastectomy. **Research design:** A quasi – experimental design was utilized in this study. **Setting:** This study was conducted at Health Insurance Hospital in Benha and Outpatient Clinic of Oncology Department at Benha University Hospital and followed by home visits. **The sample:** A Purposive sample of women attended previously mentioned settings to have mastectomy surgery, total sample size was 90 women. **Tools:** Two tools were used **I)**: A structured interviewing questionnaire which consists of 3 parts to assess a): Demographic characteristics of post mastectomy women b): Medical history of women regarding breast cancer and mastectomy c): knowledge of women regarding breast cancer and mastectomy, **II):** Observational checklist which consists of 2 parts to assess a): women's practices after mastectomy b) home environment of women after mastectomy. **Result:** 45.6% of the studied women aged 50 and more years with mean age 52.25±10.67 years and 80.0% of them were married while 66.7%% of women had good total knowledge level regarding breast cancer and mastectomy post implementation of home health care intervention and 77.8% of them had satisfactory total practices level post implementation of home health care intervention. There were statistical significant differences between pre/post home health care implementation among the studied women's satisfactory practices level with $p<0.001$. **Conclusion:** There were positive correlations between women's total knowledge and total practices after implementation of home health care intervention. **Recommendation:** Continuous health education program for women at home to avoid complications after mastectomy.

***Key words*:** Women after Mastectmy, Home Health Care.

Introduction:

Breast cancer (BC) is one of the most common neoplasms in women, accounting for16% of all female cancers and with over 1.2 million cases diagnosed each year worldwide with the number of new diagnoses still on the rise, one in eight women will develop BC within their lifetime, but all women are at risk. Breast cancer is a group of diseases in which cells in a person's breast tissue change and divide uncontrolled, typically resulting in a lump or mass **(Filip et al., 2024)**.

A mastectomy is a surgical procedure to remove all breast tissue. Various types of mastectomy exist based on the indications for surgery; a simple mastectomy is the most common type, a skin-sparing mastectomy and a nipple-sparing mastectomy where the nipple-areolar complex and most of the skin overlying the breast are preserved. A modified radical mastectomy combines a simple mastectomy with an axillary lymph node dissection. In

contrast, a radical mastectomy involves the removal of the chest wall muscles. Historically, mastectomy was the procedure of choice for breast cancer. However, with improved understanding, more limited surgical procedures, such as partial mastectomies or lumpectomies, are now far more commonly performed **(Goethals et al. 2024)**.

Treatment of breast cancer can be done by surgical methods, and non-surgical methods as chemotherapy, and radiotherapy, or it can be both. The most common surgical procedure is a mastectomy. Mastectomy is a breast removal surgery which can impact physical and psychological health due to physical changes in the appearance and body function of the women, feelings of reduced attractiveness or femininity, changes in self-perception, and negative effects on sexual wellbeing so providing home health care intervention for women contributes effectively to the prevention and treatment of any complications and lead to the steady recovery of functional capacity **(Nurhidayati et al., 2023; Roy et al., 2024).**

Home-Health Care intervention (HHC) is any program undertaken inside or in the immediate surroundings of women's home which can raise adherence level since they are convenient and offer flexible scheduling. HHC interventions can be structured based on training principles and tailored to specific goals or unstructured as daily tasks. It can be directly supervised either virtually or in-person, facilitated with no direct supervision but with scheduled professional consultations to monitor progress and give support, or unsupervised with no professional presence during the practice or scheduled appointments. HHC interventions can improve knowledge and healthy practices of women after mastectomy enhancing their recovery (**Ramos et al., 2024)**.

Community health nurses play a vital role in providing quality care to women with mastectomy to increase their satisfaction. Moreover, nurses 'role has extended from just providing physical care to educate women about health practices after mastectomy as appropriate wound care, arm exercise, scar message and breast self-examination and how to minimize pain after surgery. CHNs should educate women about self-care recommendations include good nutrition, proper exercise, enough rest and sleep, preventing infection after mastectomy. Also, CHNs teach women bout preventing injury in the affected side, preventing muscle strain, and promoting lymph drainage. Different treatment methods after surgery as chemotherapy or radiation and how to overcome side effects should be clarified **(Amin et al., 2024)**.

Significance of the study:

Breast cancer accounted for 685,000 deaths globally in 2020, and half of all cases occur in women with no specific risk factor besides gender and age group and mortality rates have been higher in less-developed countries. During the last four decades, there were a 40% reduction in age-standardized breast cancer mortality and a reduction in the medium age at diagnosis, which in turn means that the number of mastectomies performed for younger women increased **(Simion et al., 2024**). Mastectomy surgery is the commonest operation due to malignant neoplasm among Egyptian females with increasing rate approximately 29% **(Ramadan et al., 2023)**.

Mastectomy and treatment after mastectomy are stressful experiences that may lead to different physical, psychological, behavioral, social, and spiritual issues so women's need not only medical therapy but also psychological, spiritual, and social support that can be provided through home intervention and increasing their knowledge and enhancing their practices after mastectomy **(Araby et al., 2024)**. In this regard, the main concern of the

present study was to evaluate home health care intervention for women after mastectomy.

Aim of the study:

This study aimed to evaluate home health intervention for women after mastectomy.

Research Questions:

1. Home health intervention will improve women's knowledge and practices after mastectomy.

Subject and Method:

Research design:

A quasi-experimental study design (pre & post-test design) was utilized to fulfill the aim of this study.

Setting:-

This study was conducted at Health Insurance Hospital in Benha and Outpatient Clinic of Oncology Department at Benha University Hospital and followed by home visits to conduct the study. This clinic includes 2 rooms located at outpatient clinics building on the ground floor. These setting are main Hospitals that conduct mastectomy surgery at Qalyobia Governorate and characterized by higher flow rates than other hospitals.

Sampling:-

A Purposive sample of women from previously mentioned settings that have mastectomy surgery throughout nine months, from the beginning of May 2023 to end of the January 2024 with the following inclusion criteria: Age ≥20 years old, women are within the first follow up after mastectomy, unilateral mastectomy, absence of metastasis and agree to participate in the study; the total sample included was 90 women.

Tools of data collection: Two tools were used in this study:

First tool: Tool (I): A structured interviewing questionnaire: It was adapted from **Atya et al. (2022); Abdel-Mordy et al., (2021)** and modified by the researcher. It was translated in simple clear Arabic language. It composed of the following three parts:

The first part: It was designed to assess demographic characteristics of the studied women. It included 6 items such as; age, current marital status, residence, educational level, occupation and income.

The second part: It was designed to assess medical history of the studied women regarding breast cancer and mastectomy.

A- Past medical history included 7 items such as; onset of breast cancer, site, methods of detecting, main complain, stage, family history and degree.

B- Current post mastectomy history included 7 items such as; duration after surgery, type of surgery, type of treatment, care giver, other health problems, length of stay at hospital and follow-up system.

C- Obstetrics & Gynecological history of the studied women included 8 items such as; age of menarche, menopausal state, breast condition during menses, age at first pregnancy, type of breastfeeding, previously used contraceptives, last hormonal contraceptive method and duration).

The third part: It included three main items:

A- It was concerned with knowledge of the studied women about breast cancer which included 6 closed ended questions such as; meaning of breast cancer, risk factors, signs & symptoms, types, stages and methods of treatment.

B- It was concerned with knowledge of the studied women about mastectomy which included 8 closed ended questions such as; meaning of mastectomy, indications, contra-indications, types, complication, signs & symptoms of infection after mastectomy,

methods of reducing swelling after mastectomy and recovery time.

C- It was concerned with knowledge of the studied women about self- care after mastectomy which included 4 closed ended questions such as; good nutrition after the surgery personal hygiene, activity and rest and prevention of infection.

Scoring system:

The scoring system for women` knowledge was calculated as follows: Each item was given (2) score for correct and complete answer, while (1) score for correct and incomplete answers and (0) for don't know answer. For each section of knowledge, the score of the items was summed up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. The total knowledge score was classified as the following:

Total score of knowledge= 36points

- Good knowledge if the total score was ≥75 % (≥27 point)
- Average knowledge if the total score was 50% to less than 75% (18-<27 points)
- Poor knowledge if the total score was less than 50% (<18 point).

Tool (II): Observational checklist which covered the following two parts:

The first part: Designed to assess women's practices after mastectomy at home adapted from **Sroure & Salime, (2022)** and modified by researcher which included (5) items.

Wound care which included 7 points, scar message which included 4 points, deep breathing exercise which included 6 points, breast self-examination which included 12 points; inspection included 3 points, palpation in lying down included 7 points and palpation during bathing included 2 points, arm exercise which included 48 points in 11 items.

Scoring system:

The scoring system for the studied women` practices was calculated as follows (1) score for done and (0) for not done practicing. The score of the items was summed- up and the total divided by the number of the items, giving a mean score. These scores were converted into a percent score.

The total practices score was = 77points and considered

- Satisfactory if the score of the total practices was ≥60% (≥46point)
- Unsatisfactory if the score of the total practices was < 60% (< 46point).

The second part: Designed to assess home environment of women after mastectomy adapted from **Shedeed et al., (2021)** and modified by researcher. It included 9 points.

Scoring system:

The scoring system for women's home environment was calculated as follows (1) score for present, and (0) for not present. The score of the items was summed- up and the total divided by the number of the items, giving a mean score. These scores were converted into a percent score sand classified as following:

The total environment score was =9 and considered

- Sanitary environment if the total score was ≥60% (≥6points),
- Unsanitary if the total score was < 60% (< 6points).

Content validity:

Content validity of the tools was done by five of Faculty's Staff Nursing experts from the Community Health Nursing Specialties and Obstetric Health Nursing Specialties who reviewed the tools for clarity, relevance, comprehensiveness, appropriateness, legibility and applicability and give their opinion.

Reliability of the tool:

The reliability of the tool was applied by the researcher for testing the internal consistency of the tool, by administration of the same tools to the same subjects under similar condition on one or more occasion. Answers from repeated testing were compared (test-re-test reliability). The reliability was measured by Cronbach's alpha in the form of a correlation coefficient, with 1.00 indicating perfect reliability and 0.0 indicating no reliability. The reliability revealed that each of the three tools consisted of relatively homogenous items as indicated by the moderate to high reliability of each tool. The internal consistency of the knowledge was 0.881 and practices were 0.790,

Ethical considerations:

All ethical issues were assured; the study was approved from Ethical Research Committee of Faculty of Nursing, Benha University, informed consent has been obtained from each woman before conducting the interview and given them a brief orientation to the purpose of the study to obtain their agreement to enroll in the study as well as their cooperation. Women after mastectomy were also reassured that all information gathered would be confidentially used only for the purpose of the study and personal data were not disclosed. The women had right to withdraw from the study at any time without giving any reasons. No names were required on the form to ensure anonymity and confidentiality. The study causes no physical, social or psychological risk on the participants..

Home health care intervention for women after mastectomy included four phases:

(I) Preparatory and assessment phase: The aim of this phase was to collect baseline women's data as well as to determine individualized educational needs and to design a suitable educational sessions and booklet.

Preparation of the study design and data collection tools was based on extensive review of the current and past available national and international references related literature about mastectomy by using a journal, textbooks and internet search to contrast the tools and the home health care intervention. This was necessary for the researcher to be acquainted with and oriented about aspects of the research problem as well as to assist in the development of data collection tools.

The studied women assessed through collection and analysis of baseline data from the filled tools. In this phase the researcher did the pre-test and scheduled times and frequency of sessions to selected women to assure adherence to interventions and took informed consent from women. Also, prepared handout for studied women that included all items about mastectomy, the time of preparing the tool took about two months.

Pilot study:

The pilot study was conducted on10 % of the total sample (9) women who taken in two weeks. The pilot study was aimed to test the content clarity, applicability, simplicity and time needed to fill the tools, completing the sheet consumed about 30- 40 minutes. No modifications were done, so the pilot study sample was included in the total sample.

(II) Planning phase: The researcher identified the important needs for target group, set priorities of needs, goals and objectives were developed. Educational content was determined based on women's response. Educational methods were determined such as lectures, discussions, videos and role play and educational aids such as computers, projectors and PowerPoint software were used then determine time of visits. General and specific objectives were developed**.**

(III) Implementation phase: In this phase the researcher implement home health care intervention for the studied women through

home visits at the suitable time for them. Data were collected over 9 months; from the beginning of May 2023 to end of the January 2023, the Roy adaptation model was applied followed by follow up after three months. The study was conducted by the researcher for the studied sample in the selected setting of Health Insurance Hospital in Benha and Benha University Hospital's oncology outpatient clinics and followed by home visits.

The researcher visited the selected settings two days per week (Tuesday and Thursday) from 9:00 am to 12:00 mid- day to accomplish home visits to previously selected cases. The researcher chose those days because these days were the days of follow up for women after mastectomy at outpatient clinic and those days were appropriate for researcher. The average time needed for the sheet was around 30-40minutes, the average number interviewed at the outpatient clinic were 1-2 women/day depending on the responses of the studied women.

The researcher visited the study setting and during the initial visit, the researcher introduced herself and explained the purpose of the research briefly to those who fulfilled the inclusion criteria. Each woman was individually interviewed in the waiting area of the outpatient clinic and their addresses and telephone numbers were taken to complete home visit to collect the data. The researchers approached the women in their homes and asked them questions in Arabic and recorded their responses in the specially designed tool.

To ensure that the studied women were exposed to the same learning experience, the researcher applied the model through four practical sessions; 1 hour theoretical and 1 hours practical). The duration of each session varies according to the content and women's response and lasted between 30 minutes including periods of discussion. Illustrated booklet guideline was distributed to post mastectomy women to gain information and facilitate discussion.

Before each session, the researcher gave time to women to express own feelings. Each session started by summary about the previous session and objectives of new topics. Discussion, motivation and reinforcement during session were used to enhance learning. Direct reinforcement in the form, a copy of the intervention was given as a gift for each patient to use it as future reference. All the participants were cooperative with the researcher.

At the end of each session, the researchers made the conclusion and took feedback from women who participated in a discussion to correct any misunderstanding and they were informed about time of next session. The researcher assured women to feel free for contacts via telephone through chatting via mobile communication programs for answering women’s questions and promoting adherence to the delivered education and counseling**.**

First session (theoretical): At the beginning of the first session, the researcher welcomed and introduced herself to the women, an orientation to the study and its process were presented, took informed consent from women after explaining aim and nature of the study. Researcher provided a trust, warm and secure atmosphere to relieve anxiety, tension and increase motivation to participate in all sessions of the study. Researcher discussed breast cancer, risk factors of breast cancer, signs and symptoms of breast cancer, types of breast cancer, stages of breast cancer and treatment methods of breast cancer, taking into consideration the use of simple language according to the educational level. Inform the studied women that each session started y summary about previous session and objectives of new topics.

Second session (theoretical): Covered definition of mastectomy, indications of mastectomy, contraindications of mastectomy, types of mastectomy, complications of

mastectomy and ways to relieve arm swelling/edema and treatment methods after mastectomy, methods of self-care after mastectomy which included good nutrition after the surgery, personal hygiene, activity and rest and prevention of infection.

Third session (Practical): Covered application of wound care to support healing and avoids infection and scar message to enhance skin cosmetic appearance of breast at operation scar.

Fifth session (Practical): Covered application of arm exercises that help to enhance mobility of arm after surgery, drainage and decrease lymphedema occurrence, and deep breathing exercise as a relaxation technique help to decrease stress and anxiety and relive pain and assist women to relax during exercise.

Sixth session (Practical): covered application of breast self-examination to early detect any abnormalities in another breast.

(IV) Evaluation Phase: Evaluation of home health care intervention was done immediately and then follow-up after three months. Evaluation of the intervention was done by using the post-test questionnaire which was the same formats of pre - test in order to compare the change in the studied women`s knowledge and practices immediately and after three months of home health intervention.

Statistical design:

All data collected were organized, tabulated and analyzed using appropriate statistical test. The data were analyzed by using the Statistical Package for Social Science (SPSS) version 21 which was applied to calculate frequencies and percentage, mean and standard deviation, as well as test statistical significance and associations by using Chi- square test (x2) and correlation coefficient (r), and matrix correlation to detect the relation between the variables (P value).

Significance levels were considered as follows :

- Highly statistically significant $P < 0.001$**
- Statistically significant $P < 0.05$*
- Not significant $P > 0.05$

Results:

Table (1): Shows that; 45.6% of the studied women aged 50 and more years with mean age 52.25±10.67 years and 80.0% of them were married. Regarding to their residence; 80.0% of the studied women were lived in rural areas, 51.1% of the studied women had secondary education, while 64.4% of them were housewives and 67.8% of them had enough income per month.

Table (2): Shows that; 51.1% of the studied women suffered from breast cancer for one year and more, 60.0% of them had breast cancer on left breast. Regarding to the method of disease discovering; 40.0% of the studied women are diagnosed during the 100 Million Health Initiative, 62.5% of the main complaint was a mass or lump in the breast while 63.3% of the studied women were at the second stage of disease, and 70.0% of them had no family history of breast cancer.

Table (3): Shows that; 66.7% of the studied women undergo mastectomy surgery since 3 days. Regarding type of treatment after surgery; 51.1% of the studied women were treated with chemotherapy, 46.7% of them were cared by sibling and 55.6% of them suffered from gastrointestinal diseases. Concerning length of stay at hospital; 63.3% of them stayed at hospital for day and 100.0% of studied women had follow-up three days after the surgery.

Figure (1): illustrated that; 44.4% of the studied women had modified radical mastectomy and 6.7% of them had skin sparing mastectomy.

Table (4): Shows that; 38.9 % of the studied women had the menarche at 12 to less than 14 years old while 66.7 % of them had tenderness and heaviness in the breast during menses, 41.1% of them were between 20 to 30 years old or more in the first pregnancy and 45.6% of them artificially fed their babies. Concerning hormonal contraceptive method; 75.6% of studied women used hormonal contraceptive

methods, while 38.3% of them used contraceptive injections and 44.2% of them used last method for three to four years or more.

Figure (2): Illustrated that; 44.5% of the studied women were post-menopausal and 22.2% of them were peri-menopause.

Figure (3): Illustrates that; 12.2% of the studied women had good knowledge pre application of RAM which increased to 66.7% post application and 65.5% at follow up phase while 55.6% of them had poor knowledge at pre application of RAM, and then this percentage decreased to 7.8% post application and 10.0% at follow up phase.

Figure (4): illustrates that; 82.2% & 68.9% of the studied women acquired their information regarding mastectomy from health team and family/ friends respectively and only 36.7.3 % of them from other patients.

Figure (5): Displays that; 23.3% of the studied women had satisfactory practices before implementation of Roy's adaptation model then the percentage improved to 77.8% post implementation of RAM and slightly decreased to 75.6% at follow up phase of program implementation.

Figure (6): Illustrates that; 63.3% of studied women had sanitary environment while 36.7% of them had unsanitary environment.

Table (6): Demonstrate that; there were there were positive correlation between the studied women`s total knowledge and total practice pre, post application and at follow up phase.

Table (1): Distribution of the studied women regarding their demographic characteristics (n=90)

Demographic characteristics	No.	%
Age/ years		
30-<40	19	21.1
40-<50	30	33.3
≥50	41	45.6
Mean ±SD 52.25±10.67		
Marital status		
Married	72	80.0
Divorced	8	8.9
Widow	10	11.1
Residence		
Urban	18	20.0
Rural	72	80.0
Educational level		
Can't read and write	10	11.1
Primary education/ Read and write	26	28.9
Secondary education	46`	51.1
University education	8	8.9
Occupation		
Governmental employee	14	15.6
Self-employed	18	20.0
Unemployed/Housewife	58	64.4
Monthly income		
Enough & save	6	6.7
Enough	61	67.8
Not enough	23	25.6

Table (2): Distribution of the studied women regarding their past medical history (n=90).

Past medical history	No.	%
Onset of diagnosis with breast cancer		
3 months- <6 months	11	12.2
6 months -	33	36.7
1 year or more	46	51.1
Site of the tumor		
Right breast	36	40.0
Left breast	54	60.0
Method of detecting disease		
By chance	18	20.0
Breast or nipple changes	27	30.0
After breast pain	9	10.0
The 100 Million Health Initiative	36	40.0
Main complaint		
Breast pain	1	12.5
Breast changes	2	25.0
A mass or lump in the breast	5	62.5
Stage of disease detection		
The first stage	22	24.4
The second stage	57	63.3
The third stage	11	12.2
Family history		
Yes	27	30.0
No	63	70.0
Degree (n=27)		
Mother	18	66.7
Sister	9	33.3

Figure (1): Percentage distribution of the studied women regarding type of mastectomy surgery (n=90).

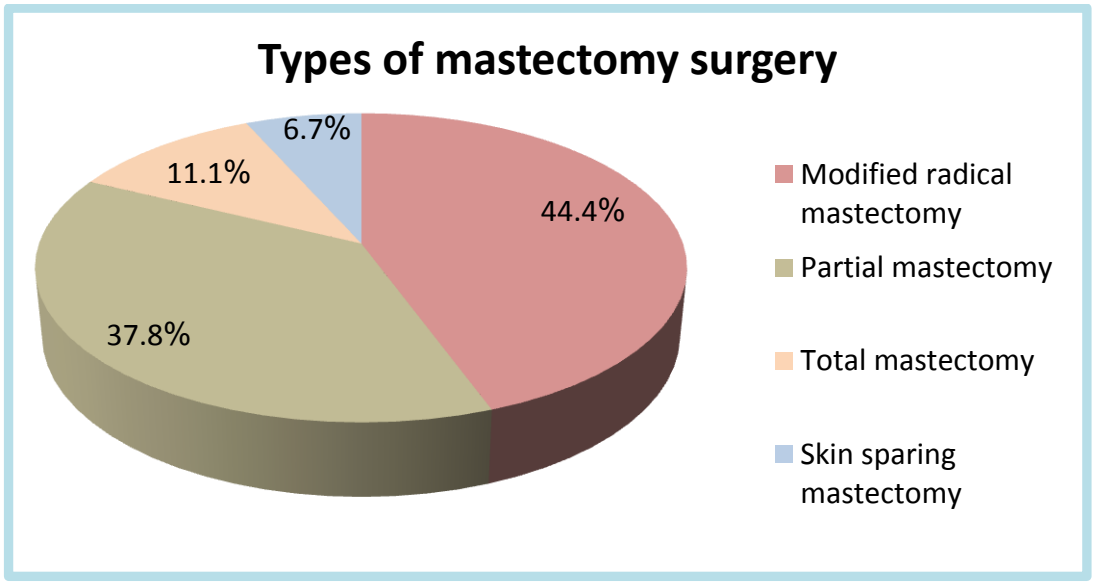

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Table (3): Distribution of the studied women regarding their current post-mastectomy history (n=90)

Current post-mastectomy history	No.	%
Time since surgery		
3 days-	60	66.7
5days-	20	22.2
7 days -	10	11.1
Type of treatment		
Chemotherapy	46	51.1
Radiation therapy	26	28.9
Chemotherapy and radiation	10	11.1
Chemotherapy, radiation and hormonal treatment	8	8.9
Caregiver		
The husband	38	42.2
Sibling	42	46.7
Mother	10	11.1
***Other caregiver(n=10)**		
Sister	2	20.0
Son's wife	8	80.0
***Other health problem**		
None	26	28.9
Gastrointestinal diseases	50	55.6
Heart/blood vessel diseases such as hypertension	27	30.0
Endocrine diseases such as diabetes	13	14.4
Length of stay at hospital		
One Day	57	63.3
two days	22	24.4
Three days	11	12.2
***The follow-up system after the surgery**		
Three days after the operation	90	100.0
Once a week during the first month after the surgery	33	36.7
Once every 6 months after the operation	78	86.7

***Answers are not mutually exclusive**

Figure (2): Percentage distribution of the studied women regarding their menopausal state (n=90).

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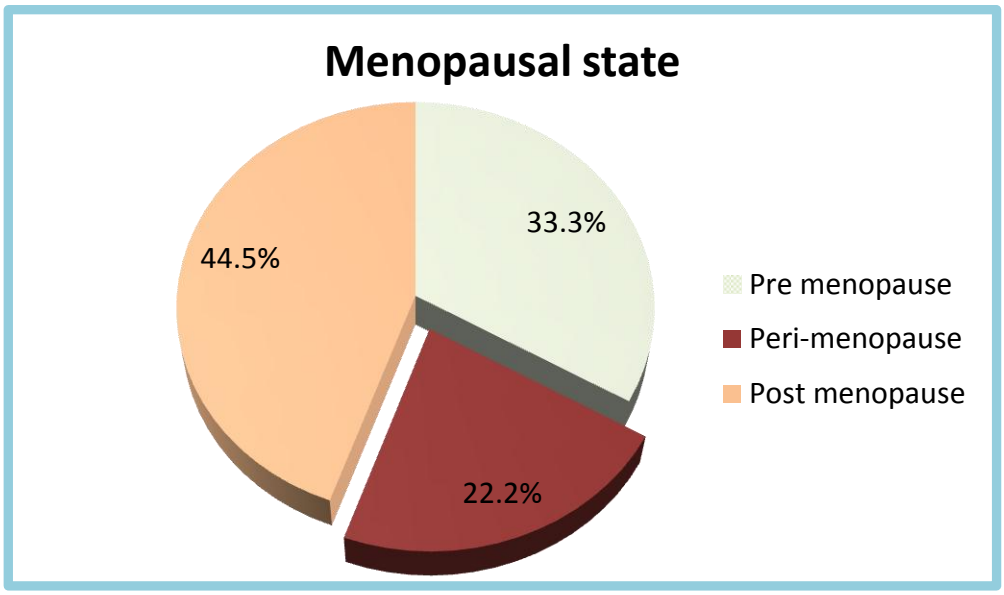

Table (4): Distribution of the studied women regarding their obstetrics & gynecological - history (n=90)

Obstetric & gynecological history	No.	%
Menarche age		
<12 years	33	36.7
12-<14 years	35	38.9
14-<16 years	11	12.2
≥ 16 years	11	12.2
***Breast condition during menses**		
Breast tenderness	60	66.7
Increase breast size	10	11.1
Heaviness in the breast	60	66.7
Age at 1st pregnancy/ years		
>20	23	25.6
20-30	37	41.1
≥ 30	30	33.3
Baby feeding method		
Breastfeeding	29	32.2
Artificial feeding	41	45.6
Both together	20	22.2
Hormonal contraceptive used		
Yes	68	75.6
No	22	24.4
Last contraceptive method used(N=68)		
Contraceptive pills	17	25.0
Hormonal IUD	8	11.7
Contraceptive injections	26	38.3
Contraceptive capsules	17	25.0
Duration of last method used (n=68)		
1 year-	23	33.8
2- 3 years	15	22.0
3- 4 years or more	30	44.2

***Answers are not mutually exclusive**

Figure (3): Percentage distribution of the studied women's total knowledge level throughout the study phases (n=90).

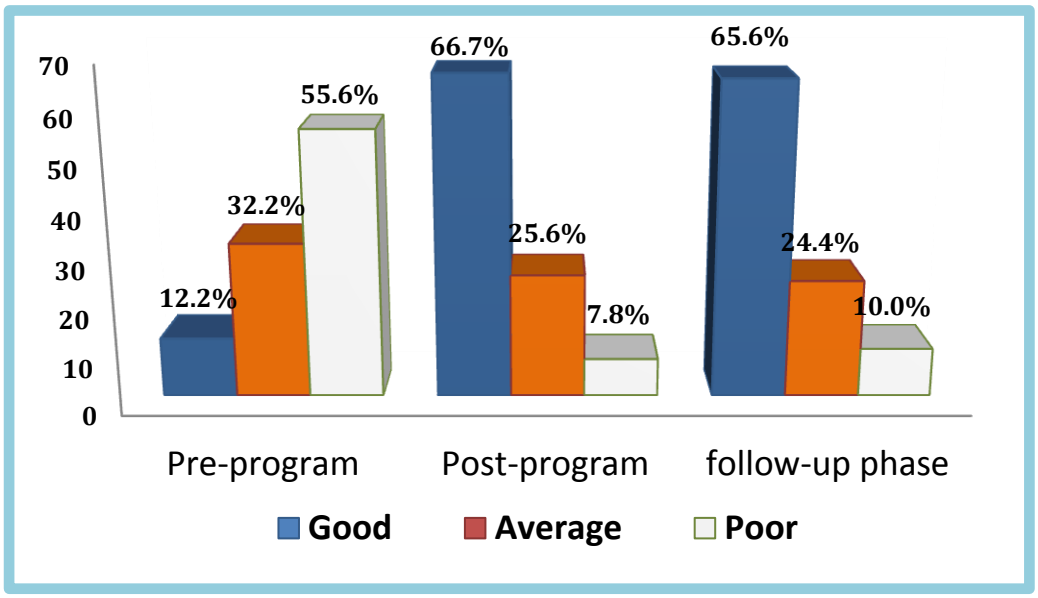

Figure (5): Percentage distribution of the studied women regarding their source of knowledge regarding mastectomy (n=90)

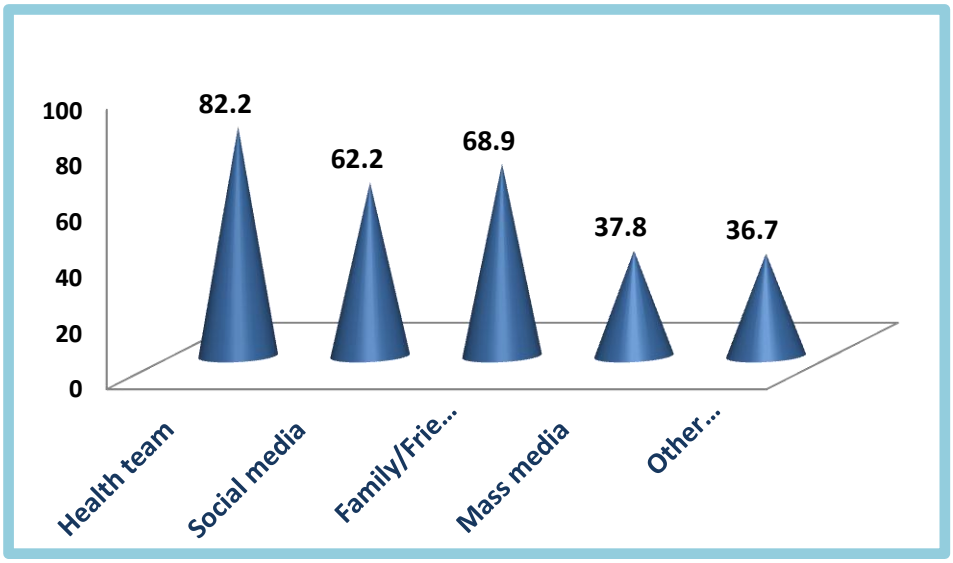

Figure (5): Percentage distribution of the studied women regarding their total practices level throughout the application of model phases (n=90).

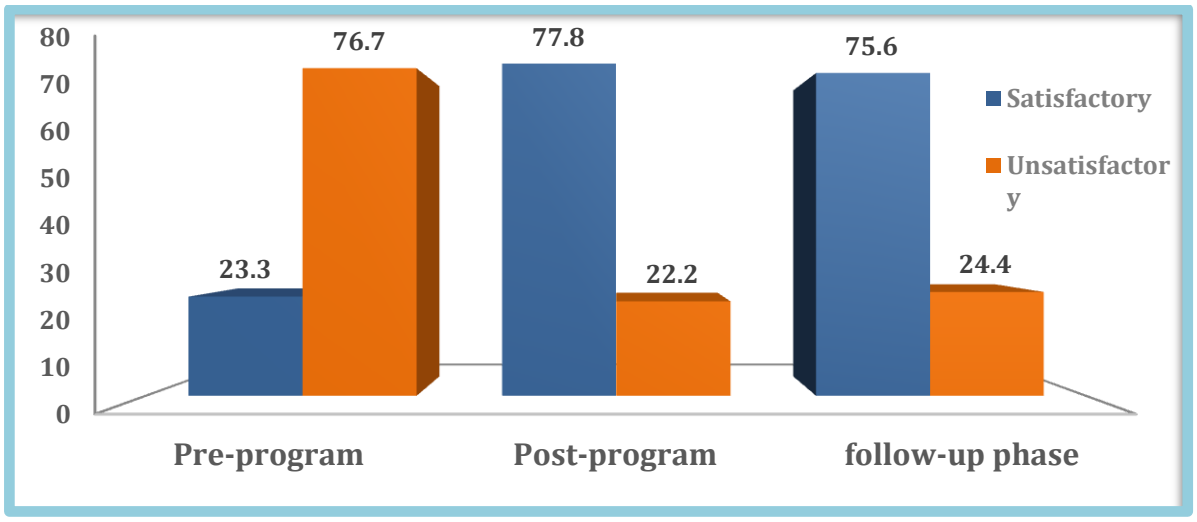

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Figure (6): Percentage distribution of the studied women regarding their total environment sanitation (n=90).

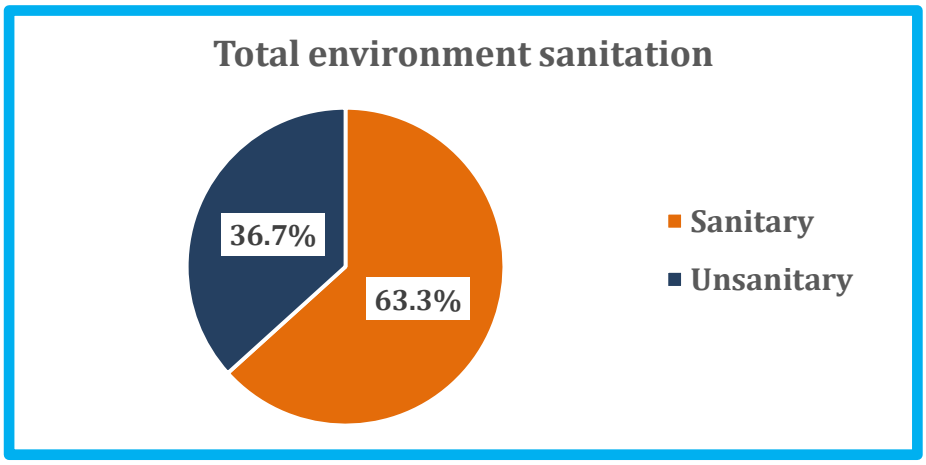

Table (6): Correlation matrix between study variables throughout the study phases

Items			Total knowledge	Total practices
Pre	**Total knowledge**	**r**	1	.511
		p-value		.000**
	Total practices	**r**	.511	1
		p-value	.000**	
		p-value	.480	.000**
Post	**Total knowledge**	**r**	1	.886
		p-value		.015*
	Total practices	**r**	.886	1
		p-value	015*	
		p-value	.046*	.000**
Follow-up	**Total knowledge**	**r**	1	.813
		p-value		.025*
	Total practices	**r**	.813	1
		p-value	.025*	
		p-value	.029*	.035*

Discussion:

Breast cancer continues to be a big public health concern, even though there have been many advances and treatment choices. Cancer of breast is the most common cancer among women and the second most prevalent cancer globally and in the US, according to the latest Global Burden of Disease (GBD) study. Physical, mental, and marital difficulties may arise after a mastectomy, the conventional therapy for breast cancer. Consequently, nurses must be able to assess the requirements of breast cancer patients, provide correct nursing diagnoses, and design effective treatment programs **(Araby et al., 2024)**. This study aimed to evaluate effect of home health care intervention for women after mastectomy.

Regarding to the socio demographic characteristics of the women, this study showed that more than two fifths of the studied women aged 50 and more years with mean age 52.25±10.67 years. This finding might be due to increased incidence of breast cancer among women over 50 years, changes in menopausal patterns, using of hormonal replacement therapy, obesity and genetic mutations in the body at this age.

This finding disagreed with **Atya2 et al. (2022),** who study "Effect of Nursing Intervention on Coping Strategies of Women after Mastectomy, n=100" and reported that less than two thirds of the study group, compared to less than half of the control group was between 50-60 years with mean age 55.3±1.8, 56.1 ± 2.7 respectively. This result was nearly congruent with **Natarajan, et al. (2023)** who reported that slightly more than half of the sample were of age with the maximum score, 55 years and older.

Concerning to current marital status of women, the current study revealed that majority of studied women were married (table 1). This finding was in line with **Harfoush et al. (2023)**, they studied " Effect of Virtual Reality-Based Rehabilitation Program Versus Booklet-Based Education on Self-Care Practices and Prevention of Complications among Women after Mastectomy" in El-Beheira governorate, Egypt (n= 100), who reported that the majority of the studied group was married. Also, this

finding was agreed with **Cie´slak et al.(2022),** who studied "Mentalization and Its Relation to Life Satisfaction and the Level of Mental Adjustment to Illness in Women with Breast Cancer—A Pilot Study" and found that almost two thirds of studied women were married.

Concerning to Educational level of the studied women, the current study showed that more than one half of the studied women had secondary education (table 1). This finding was contradicted by a study conducted in Menoufia governorate, Egypt by **Atya et al. (2022),** entitled "Coping Strategies of Women after Mastectomy', (n=100), who displayed that more than one third of the studied women (36%) had secondary education. The present research result nearly disagreed with **(Khalaf, et al, 2023)** who over a quarter of the participants had only primary education, while about one-third had secondary education.

Concerning to occupation of studied women, the current study reported that slightly less than two thirds of studied women were housewives (table1). This finding was consistent with **Teshome et al. (2024)**, they studied" The Lived Experience of Ethiopian Women After Mastectomy due to Breast Cancer: A Qualitative Study" and reported that slightly more than two thirds of studied women were housewives.

Regarding the residence, the present study showed that almost four fifth of the studied women lived in rural areas (table 1). This finding was in congruent with **Araby et al. (2024)**, who studied "Effect of Educational-Supportive Program about Therapeutic Exercises on Women's Physical, Psychological and Marital Status Undergoing Mastectomy, n=86" and reported that more than half of the group of control and more than three fifths of the group of study were villagers. Conversely, this finding was in congruent with **Askar et al. (2021)** who reported that the majority of the studied women were living in urban residences.

Concerning monthly income, the present study showed that slightly more than two thirds of studied women had enough income per month (table1). This finding was disagreed with **Salime & Srour (2022)**, who studied "The Effect of Structured Training Program on Health Needs and Practices of Women Undergoing Modified Radical Mastectomy, Egypt ", (n=120), and reported that slightly less than three quarters of studied women had insufficient income according to their opinion.

Concerning past medical history, the current study displayed that more than half of the studied women suffered from breast cancer for one year and more (table 2). This finding was disagreed with **Abdel-Mordy et al (2021**),they studied "Effect of Application Roy's Adaptation Model on Women's Satisfaction and Quality of Life after Mastectomy(n=100)" who reported that slightly less than half of studied women suffered from breast cancer for 6 months to one year before mastectomy.

Regarding the method of disease discovery; the present study showed that two fifths of the studied women are diagnosed during the 100 Million Health Initiative (table 2). This might be due to beneficial effects of the initiative in early detection of breast cancer and high accessibility to women especially in rural area. This finding was incongruent with **Atya et al. (2022),** who revealed that two thirds of the studied women discovered the disease by accident.

Regarding site of tumor, the present study showed that three fifth of the studied women had breast cancer on left breast (table 2). This result was congruent with **(Wang & Du, 2024)** who demonstrated that that more than half of the participants had breast cancer in the left breast. Also, this finding was agreed with **Araby et al. (2024),** who revealed that almost two thirds of the group of study had

cancer in the left breast. However, this finding contradicts the results of **(Abdel-mordy, et al., 2021)** who reported that breast cancer was found in the right breast for more than half of the control group and approximately two thirds of the study group.

In relation to main complaint, the present study revealed that slightly more than three fifth of the studied women complained a mass or lump in the breast (table 2).This might be due to the women believe that mass is very obvious and terrible than other symptoms. This finding is agreed with **Salime & Srour (2022),** who revealed that, the majority of the studied women had painless mass as main complaint.

As regard stage of disease detection, the current study revealed that more than half of the studied women were at the second stage of disease at detection (table 2). This finding was nearly aligned with **Askar et al. (2021)** who found that two fifths of the studied women were in stage 2 of the breast cancer. This result was in the same line with **Amin et al. (2024)** who studied "Effect of Mastectomy on Quality of Life for Elderly Women, zagazig, Egypt, (n=140) ' and revealed that more than two fifths of the studied women were diagnosed as stage II breast cancer.

As regard family history, the present study revealed that more than three fifths of the studied women had no family history for breast cancer and slightly more than two thirds of studied woman that have positive family history were from first degree (table 2). This might be due to family history among 1st relative degree increase risk for breast cancer. This result are consistent with **Harfoush et al. (2023)**, Who confirmed more than three fifths of total studied women had no family history for breast cancer.

Conversely, **Araby et al. (2024)** reported that over three-quarters of the control group and fewer than three quarters of the study group had a history of breast cancer in their families. Also, this result was in consistent with **Asker et al. (2021)** who conduct the study of Effect of Instructional Guidelines on Women Awareness Regarding Nutrition after Breast Cancer Surgery in Fayoum, n=130" and concluded that more half of women were having a family history of breast cancer.

Concerning current post mastectomy history, the present study reported that slightly more than two thirds of the studied women undergo mastectomy surgery since 3 days (table 3). This might be due to the criteria of selection include women during first visit for follow up after surgery. This finding is disagreed with **Atya et al. (2022),** who revealed that one half of studied women had a total mastectomy two months ago.

Regarding type of treatment after mastectomy, the current study revealed that slightly more than half are treated with chemotherapy (table 3). This finding was supported by **Araby et al. (2024)** who reported that more than two thirds of the group of control and slightly less than three quarters of the group of study underwent chemotherapy.

Regarding to other health problem among women, the present study revealed that slightly more than half of studied women suffered from gastrointestinal diseases and less than third suffered from heart diseases (table 3). This might be due to these disease are common chronic disease with their incidence increase with age. This result was supported by the study done by **Harfoush et al. (2023),** who revealed that heart diseases were the most reported diseases among the total subjects.

As regard type of mastectomy, the current study revealed that less than half of the studied women had modified radical mastectomy. This result was disagreed with **Amin et al. (2024),** who revealed that more than half of the women had partial mastectomy. From researcher point of view,

this might be due Modified radical mastectomy remains the treatment of choice in women not eligible for less invasive techniques and did not increase the local recurrence rate achieving sufficient tumor clearance while avoid resection of the pectoral muscles and preserving it.

Concerning gynecological history, the present study showed that 38.9 % of the studied women had the menarche at 12 to less than 14 years old. This finding was in dis agreed with **Atya2 et al. (2022),** who reported that less than three quarters and slightly more than three quarters of control group and study group respectively had menarche at age 12 years and less years.

Regarding hormonal contraceptive used, the present study showed that slightly more than three quarters of the studied women have been used hormonal contraceptive while slightly less than two fifths used hormonal contraceptive injection as a last method and more than two fifths of them used that method for three to four years or more. This might be due to majority of women prefer taking injection rather than bills as it's easy to forget taking bills and others believe that injection methods last longer period as contraceptive methods. This finding is disagreed with **Atya et al. (2022),** who found that three fifths of the studied women had used oral contraceptives(OCS) and two fifth of them used OCS for two years old.

In relation to menopausal status, the present study showed that more than two fifths of studied women were post-menopausal. This might be due to women had increased risk for breast cancer during post menopause (table 4). However, this finding disagreed with **Abdel-Mordy et al (2021**),they studied "Effect of Application Roy's Adaptation Model on Women's Satisfaction and Quality of Life after Mastectomy(n=100)" who reported that around two thirds of the control group and less than two thirds of study group were premenopausal status.

Regarding total knowledge of the studied women regarding mastectomy, the current study displayed that there were highly statistically significant difference in total knowledge level of studied women throughout post and at follow up phase, **P=0.000**, this finding was in accordance with **Amin et al. (2024),** who found that there was an improvement of the women's knowledge about breast cancer in all items from pretest to posttest and follow up. These improvements were highly statistically significant (P<0.001).

Concerning source of information, the present study revealed that majority of the studied women acquired their information about breast cancer, mastectomy and self-care from health team. This finding was disagreed with **ALabdouli & Abd El-Kader (2021),** who studied "Breast Self-Examination Training Program of Primary Health Centers Working Women: An Intervention Study, n=80", and reported that more than two thirds the studied women reported that media (TV, Radio, and Internet) were the source of information about breast cancer. Meanwhile this result was closely aligned with **Askar et al. (2021),** The majority of women reported that the main source of information regarding nutritional knowledge after breast cancer surgery was doctors.

Concerning total practices level, the current study showed that there were highly statistically significant differences in all items related to the studied women`s practices pre, post implementation of RAM and at follow up (p= 0.000). These finding were in the same line with **Salime& Srour (2022)** who explained a statistical significant differences between pre / post and follow up structured training program implementation among the studied women's satisfactory practices level as regards the following items (breast self-

examination, deep breathing exercise, arm exercises, dry dressing, hand washing and oral care), with p <0.001.

Concerning total practice of women, the present study revealed that more than two fifths of the studied women had satisfactory practices before home health care intervention and improved to more than three quarters post and at follow up phase. Meanwhile, this finding was inconsistent with **ALabdouli & Abd El-Kader (2021),** who revealed that pre-program all women had the unsatisfactory level of practice that was changed to become 100% of them have a satisfactory level of practice on post-program, and one month follow up with statistically significant (p<0.001).

Concerning correlation between knowledge and practice, the current study revealed that, there were there were positive correlation between the studied women`s total knowledge and total practice pre, post application and at follow up phase. This result is consistent with **Abdel-Mordy et al (2021),** who found that there was a positive statistical significant correlation in the study group between total satisfaction and age, education, residence and income post program implementation ($P \leq 0.05$).

Conclusion:

Home health care intervention had a positive effect on improvement of women's knowledge and practices after mastectomy. There were positive correlations between total knowledge and total practice post home health care intervention and at follow up phase. More than two thirds of women had good knowledge post home health care intervention and slightly less than two third of studied women at follow up compared with more than one fifth pre implementation. Also, More than three quarters of the studied women had satisfactory practices post home health care intervention and at follow up phase compared with slightly more than one fifth pre implementation.

Recommendations:

1- A colored illustrated educational booklet is recommended and distributed to all women after mastectomy.
2- Rehabilitation program should be held to meet needs of women after mastectomy.
3- Application of comprehensive health education programs for women following mastectomy should be adopted to maintain good adherence to self-care practices to prevent complications.
4- Establish a web site of health information for women to improve their awareness and adaptation after mastectomy.

Further studies also recommended:

- Conduct a longitudinal study on larger sample size and different geographical areas for more generalized findings to enhance adaptive strategies after mastectomy
- Future studies are needed to focus on the adaptive coping strategies that optimize the health of women with breast cancer living with one breast after a mastectomy

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