

Post Mastectomy Patients' Perception of Wound Care Learning Needs before Discharge at Oncology Center –Mansoura University, Egypt

Karima Elshamy *¹, Amal Eid, ¹ Heba Mohamed²

¹Medical Surgical Nursing Department - Faculty of Nursing, Mansoura University, Egypt

²Clinical instructors -Chest Hospital, Mansoura University, Egypt

Karima_elshamy2002@yahoo.com

Abstract: Breast cancer is the most common type of cancer affecting women in Egypt, and the second cause of mortality among Egyptian females. Mastectomy is one of the best treatment for breast cancer, it must be followed by necessary instruction to increase knowledge and perception for patients related to wound care to complete its success. Exploratory descriptive design was used to assess post mastectomy patients' perceptions of wound care learning needs before discharge from hospital in the 2nd post operative day at Oncology center – Mansoura University. **Subjects and Method:** This study was conducted during three months duration from the beginning of August to the end of October 2015 in surgical department at Oncology Center-Mansoura University (OCMU). Ninety mastectomy women were included, based on inclusion criteria. Post mastectomy patients' perception of wound care learning needs tool was used for data collection, which consists of (79) items, and divided into three main parts, part I: socio-demographic characteristics and medical data of the patients, part II: patients' knowledge about post mastectomy wound care, and part III: patients' perception about post mastectomy wound care. **Results:** Nearly half of them were in age group (50-<60), more than half of patients had poor knowledge, and majority of them had low perception about post mastectomy wound care. **Conclusions:** Mastectomy patients have low perception of wound care learning needs before their discharge. **Recommendations:** Planned discharge education should be prepared and should be given to women who have mastectomy as well as general education about post mastectomy care.

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Keywords: breast cancer, mastectomy, wound care, perception, learning needs.

1. Introduction:

Worldwide, breast cancer is the most common invasive cancer in women ⁽¹⁾. It affects about 12% of women worldwide. Breast cancer comprises 22.9% of invasive cancers in women and 16% of all female cancers. Post mastectomy negative perceptions of body image among breast cancer survivors include dissatisfaction with appearance and surgical scars ⁽²⁾.

Breast cancer is the most common type of cancer affecting women in Egypt and the second cause of mortality among Egyptian females. Furthermore, the prevalence of developing metastatic breast cancer among breast cancer patients in Egypt was shown to be higher than the global norms indicating either late diagnosis, or inadequate care. With more than one third of families headed by women in Egypt, a middle-income country, aggravates the effect of the high cancer-specific mortality among females ⁽³⁾⁽⁴⁾.

Mastectomy (surgical removal of the breast) is a common procedure used in the treatment of breast cancer. There are different types of mastectomy which include: simple or total mastectomy, modified radical mastectomy, radical mastectomy, partial mastectomy, preventive and subcutaneous (nipple-sparing) mastectomy ⁽⁵⁾⁽⁶⁾.

Breast cancer patients and especially after surgery have a high need for information, especially for wound care and after treatment options. Study of ⁽⁷⁾ ⁽⁸⁾ found that breast cancer patients have a consistently high need for information, which does not significantly decrease over the course of treatment. Thus, one persisting problem is the relatively high proportion of mastectomy patients reporting unmet information needs or dissatisfaction with how their information needs are addressed by health-care providers. A woman undergoing mastectomy will need more nursing care as well as extra emotional support and extensive patient education about postoperative care especially for wound care ⁽⁹⁾ ⁽¹⁰⁾. Nurses should assess patients' learning needs and readiness to learn before begin teaching and keep in mind that patients may have different information-seeking behaviors (perception) and there was relation between knowledge and perception when there were correct and sufficient knowledge this lead to improve perception about wound care ⁽¹¹⁾.

Aim of the study:

The aim of the study was to assess post mastectomy patients' perceptions of wound care learning needs before discharge from hospital in the

second post-operative day at Oncology center – Mansoura University.

Research question:

What are the learning needs of post mastectomy patients before discharge from hospital?

Subjects & Method:

Study Design:

Exploratory descriptive design was used in this study.

Setting:

This study was carried out in surgical department at Oncology Center-Mansoura University.

Subjects:

A convenient sample of ninety females' patients who willing to participate was included.

Tool:

One tool was used for data collection: Post mastectomy patients' perception of wound care learning needs, this tool was developed by the investigator, based on reviewing recent related literature internationally. This tool consists of 79 items, classified into three main parts:

Part I: socio-demographic characteristics, which include 11 questions such as age, marital status, work....etc.

Part II: patients' knowledge about post mastectomy wound care which include 61 question divided into 4 sections:

- Patients' general knowledge about mastectomy (9 questions).
- Patients' knowledge about wound and drain care after mastectomy (41 questions).
- Patients' knowledge related to pain after mastectomy (3 questions).
- Patients' knowledge related to how to return to activity of daily life (8 questions).

Part III: Patients' perception about post mastectomy wound care (7 questions).

Scoring system: One point was recorded for patients' correct answer, and zero was for incorrect and missed answer.

The total score for all questions related to knowledge was calculated according to the number of correct answers and categorized into three levels as followings:

- Poor = Score % < 55%
- Fair = Score % 55% - 75%
- Good = Score % > 75%

Regarding scoring system, the items discrete scores for each scale (knowledge or perception) were summed together then the sum of scores for each dimension and total score was calculated by summing the scores given for its response.

Methods

- Official approval for conducting the study was

obtained from Faculty of Nursing, Mansoura University as well as the ethical committee of Faculty of Nursing of Mansoura University.

- Tool was developed by the researcher after reviewing recent related literatures, national and international articles.
- Tool was tested for content related validity by 5 experts in nursing and medical field who study the tool for its relevance, comprehensive, clarity and applicability for implementing. According to their opinions, minor modifications were done.
- Official approval for conducting the study was obtained from the responsible administrative personnel of Oncology Center-Mansoura University.
- Verbal explanation of the aim and the nature of the study were explained to study participants.
- A pilot study was carried out on 10% (9 patients) before starting data collection, to evaluate ambiguity, clarity, applicability of tool, and the approximate time needed for answering the questionnaire. Those patients were excluded from the study. Each sheet lasted about 20-25 minutes to be answered. Based on the results obtained from the pilot study, necessary modifications were done.
- The reliability of the developed tools was estimated using the cronbach's Alpha test to measure the internal consistency of the tools. It was found that, the reliability for knowledge regarding morbidity using cronbach's Alpha equation was (0.824), for wound related knowledge was (0.925), for drainage related knowledge was (0.884), and for pain related knowledge was (0.824).
- Patients were interviewed in the second post-operative day by researcher.
- Patients who agreed to participate voluntarily were interviewed and the aim and nature of the study were explained to them.
- Around 20-25 minutes was appropriate for assessing every patient depending on the degree of understanding and response of the patient.
- The researcher coded the questionnaires to assure the anonymity of the subjects. Finally the researcher scored the responses, and compiled them for data analysis.

Ethical Considerations:

- Verbal and written consents were obtained from patients who accepted to participate voluntarily in this study after illustrating the aim and nature of the study.
- Privacy of the patients were assured and they were interviewed in a suitable quiet place and confidentiality of the collected data was maintained.
- Patients were informed that their participation in

the study was entirely voluntary and the care they received wouldn't be affected by their decision to participate or not.

Statistical analysis:

Data was computed, tabulated, and statistically analyzed using SPSS version 20 (statistical package of social sciences). The descriptive table represent data in number and percentages. After data were collected it was revised, coded and fed to statistical software IBM SPSS version 20. The given graphs were constructed using Microsoft excel software.

All statistical analysis was done using two tailed tests and alpha error of 0.05. P value less than or equal to 0.05 was considered to be statistically significant.

Regarding scoring system, the items discrete scores for each scale (knowledge or perception) were summed together then the sum of scores for each dimension and total score was calculated by summing the scores given for its responses.

The following statistical tests were used:

A. Descriptive statistics: included frequency and percent to describe the frequency of each category for categorical data.

B. Analysis of categorical data:

- Mont Carlo exact test and Fishers exact test: they are alternatives for the Pearson's chi square test to test for association between knowledge / perception levels and different sample characteristics and between knowledge and perception. They are used if there are small frequencies where chi square is invalid.

- Correlation analysis: correlation is used to test the nature and strength of relation between two quantitative / ordinal variables.

C. The spearman correlation coefficient (ρ) is expressed as the Pearson coefficient. The sign of the coefficient indicates the nature of relation (positive / negative) while the value indicates the strength of relation as follow: Weak correlation for ρ less than 0.25, intermediate correlation for ρ of value between 0.25-0.74 and strong correlation for values between 0.75-0.99.

3 Results:

This part represents the current study findings regarding assess Post mastectomy patients' perception of wound care learning needs in the second post-operative day at Oncology Center – Mansoura University. Findings of the present study revealed that(41.1%) of patients age was between (50 - < 60) years, and (33.3%) of them (40 - <50) years. Concerning educational level, (37.8%) of patients were Middle educated, (26.7%) were illiterate. In relation to marital status, more than half of patients were married. As regards to work, (52.8%) of patients were working and (47.2%) of them were housewives.

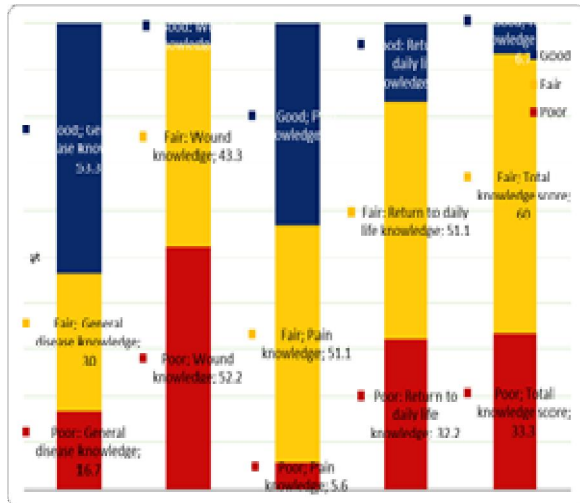
In relation to residence (55.6%) of patients were living in rural areas and (44.4%) in urban.

Figure (1) represents distribution of studied patients according to their total knowledge. In relation to wound knowledge more than half of patients had poor knowledge.

Table (2) show distribution of studied patients related to their perception of wound care. It was apparent from this table that, nearly more than two thirds of patients don't have any perception about wound appearance after surgery, majority of them had psychological problems when saw the wound after surgery and didn't have the ability to see the wound during cleaning and dressing change. The mastectomy wound extremely affect the life of (60%) of patients, nearly most of them had negative feeling after the surgery and majority of them know about mastectomy pain after surgery. Only (57.8%) have expect pain post mastectomy.

Table (1): Percentage distribution of studied patients according to their socio-demographic characteristics (N: 90).

Socio demographic characteristics	No	%
Age (years)		
▪ -18-	7	7.8
▪ -30-	16	17.8
▪ -40-	30	33.3
▪ -50-60	37	41.1
Education		
▪ -Illiterate	24	26.7
▪ -Read & Write	10	11.1
▪ -Middle	34	37.8
▪ -University	22	24.4
Marital status		
▪ -Single	13	14.4
▪ -Married	50	55.6
▪ -Widow	27	30.0
Work		
▪ -Working	47	52.8
▪ -Housewife	42	47.2
Residence		
▪ -Rural	50	55.6
▪ -Urban	40	44.4
Income		
▪ -300-500	26	28.9
▪ -500-1000	31	34.4
▪ ->1000 L.E	33	36.7

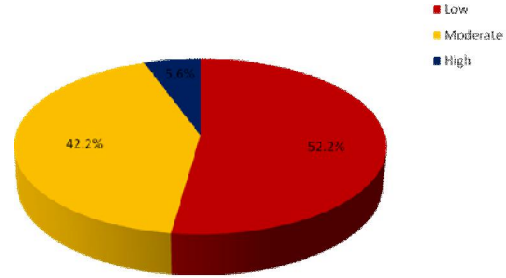


Poor: Score % < 55%
 Fair: Score % 55- 75
 Good: Score % >75%

Figure (1): Distribution of studied patients according to their total knowledge.

Table (2): Distribution of studied patients related to their perception of wound care (N: 90)

Perception items	No	%
Know wound appearance after surgery		
▪ -Don't know	56	62.2%
▪ -Know	34	37.8%
Seeing wound causes psychological problems		
▪ -No	12	13.3%
▪ -Yes	78	86.7%
Can look at wound during cleaning		
▪ -No	80	88.9%
▪ -Yes	10	11.1%
To which extent wound affects your life		
▪ -Extremely	54	60.0%
▪ -Moderately	24	26.7%
▪ -Slightly	12	13.3%
Feeling after surgery		
▪ -Negative	58	64.4%
▪ -Neutral	32	35.6%
pain after surgery		
▪ -Don't know	3	3.3%
▪ -Know	87	96.7%
Expecting of pain post mastectomy		
▪ -No	38	42.2%
▪ -Yes	52	57.8%



Low: <5
 Moderate: 5-7
 High: 8-10

Figure (2): Distribution of studied patients' total perception about mastectomy wound care (N: 90).

Figure (2) represents distribution of studied patients' total perception about mastectomy wound care. This figure clarifies that more than half of patients (52.2%) had low perception about wound care after surgery.

Table (3): Relation between socio demographic data and wound knowledge of studied patients (N: 90).

Socio demographic data	Wound knowledge				MCP	
	Poor No	Poor %	Fair No	Fair %		Good No
Age (years)						
-18-	1	14.3%	6	85.7%	0	0.0%
-30-	7	43.8%	9	56.3%	0	0.0%
-40-	15	50.0%	12	40.0%	3	10.0%
-50-60	24	64.9%	12	32.4%	1	2.7%
Education						
-Illiterate	19	79.2%	5	20.8%	0	0.0%
-Read & Write	10	100.0%	0	0.0%	0	0.0%
-Middle	16	47.1%	17	50.0%	1	2.9%
-University	2	9.1%	17	77.3%	3	13.6%
Marital status						
-Single	2	15.4%	11	84.6%	0	0.0%
-Married	27	54.0%	21	42.0%	2	4.0%
-Widow	18	66.7%	7	25.9%	2	7.4%
Work						
-Working	13	27.7%	30	63.8%	4	8.5%
-Housewife	33	78.6%	9	21.4%	0	0.0%
Residence						
-Rural	34	68.0%	15	30.0%	1	2.0%
-Urban	13	32.5%	24	60.0%	3	7.5%
Income						
-300-500	15	57.7%	11	42.3%	0	0.0%
-500-1000	26	83.9%	5	16.1%	0	0.0%
>1000 L.E	6	18.2%	23	69.7%	4	12.1%

* P < 0.05 (significant)

MCP: Mont Carlo exact probability

Table (3) show relation between socio demographic data and wound knowledge of the studied patients (N: 90).

It indicated that there was statistical significant association ($P < 0.05$) between socio-demographic data except the age and wound knowledge for studied patients. In relation to education, (100%) of patients who only read and write, had poor knowledge. Regarding marital status, fair knowledge was found in single patients (84.6%). As regards to work, (78.6%) of housewives patients had poor knowledge. In reference to residence, (68%) of rural patients had poor knowledge. As regards to income (83.9%) of patients with monthly income (500-1000) LE had poor knowledge.

Table (4) show the relation between socio demographic data and total knowledge score for studied patients (N: 90).

It indicated that there was statistical significant association ($p < 0.05$) between socio-demographic data and level of total knowledge score post mastectomy. Regarding age, fair level of knowledge was found in between age group (18 - <30, 85.7%). In relation to education, (90%) of patients who only read and write had poor knowledge. As regards to marital status, (76.9%) of single patients had fair knowledge. It was apparent that knowledge level was fair in between working patients (74.5%). In reference to residence, (80%) of urban patients had fair knowledge. (81.8%) of patients with monthly income more than 1000 le had fair level of knowledge.

Table (4): Relation between Socio demographic data and total knowledge score for studied patients (N: 90).

Socio demographic data	Total knowledge score						MCP
	Poor		Fair		Good		
	No	%	No	%	No	%	
Age (years)							
-18-	0	0.0	6	85.7	1	14.3	0.001*
-30-	3	18.8	13	81.3	0	0.0	
-40-	5	16.7	21	70.0	4	13.3	
-50-60	22	59.5	14	37.8	1	2.7	
Education							
-Illiterate	15	62.5	9	37.5	0	0.0	0.001*
-Read & Write	9	90.0	1	10.0	0	0.0	
-Middle	6	17.6	27	79.4	1	2.9	
-University	0	0.0	17	77.3	5	22.7	
Marital status							
-Single	2	15.4	10	76.9	1	7.7	0.001*
-Married	11	22.0	37	74.0	2	4.0	
-Widow	17	63.0	7	25.9	3	11.1	
Work							
-Working	7	14.9	35	74.5	5	10.6	0.001*
-Housewife	23	54.8	18	42.9	1	2.4	
Residence							
-Rural	27	54.0	22	44.0	1	2.0	0.001*
-Urban	3	7.5	32	80.0	5	12.5	
Income							
-300-500	13	50.0	12	46.2	1	3.8	0.001*
-500-1000	16	51.6	15	48.4	0	0.0	
->1000 L.E	1	3.0	27	81.8	5	15.2	

* $P < 0.05$ (significant)

MCP: Mont Carlo exact probability

Table (5) Clarifies the relation between Socio demographic data and patients' perception about mastectomy wound care (N:90).

It indicated that there was statistical significant association ($p < 0.05$) between each of age, education, marital status, work, residence and level of perception post mastectomy for studied patients. Regarding age, moderate level of perception was found in between age group (18 - <30, 71.4%) and low level in between age group (50 - <60, 70.3%). In relation to education, all patients (100%) who only read and write had the lowest level of perception. It was apparent that perception level was low in between widow patients (74.1%). As regards to work, low level of perception was found between housewives patients (81%). In reference to residence low level of perception was found between rural patients (64%).

Figure (3) show that there is a significant positive correlation between total patients' knowledge and their perception. This means that increase knowledge of studied patients lead to increase their perception.

6- Discussion:

The discussion of this study will cover three main areas; socio demographic characteristics of the study subjects, knowledge and perception of studied patients, as well as the relation between different variables of the study.

Concerning socio-demographic characteristics of the study subjects:

Table (5): Relation between Socio demographic data and patients' perception about mastectomy wound care (N:90).

Demographic data	Patients' perception						MCP
	Low		Moderate		High		
	No	%	No	%	No	%	
Age (years)							
18-	1	14.3%	5	71.4%	1	14.3%	0.009*
30-	7	43.8%	6	37.5%	3	18.8%	
40-	13	43.3%	16	53.3%	1	3.3%	
50-60	26	70.3%	11	29.7%	0	0.0%	
Education							
Illiterate	18	75.0%	6	25.0%	0	0.0%	0.001*
Read & Write	10	100.0%	0	0.0%	0	0.0%	
Middle	16	47.1%	17	50.0%	1	2.9%	
University	3	13.6%	15	68.2%	4	18.2%	
Marital status							
Single	2	15.4%	7	53.8%	4	30.8%	0.001*
Married	25	50.0%	24	48.0%	1	2.0%	
Widow	20	74.1%	7	25.9%	0	0.0%	
Work							
Working	13	27.7%	29	61.7%	5	10.6%	0.001*
Housewife	34	81.0%	8	19.0%	0	0.0%	
Residence							
Rural	32	64.0%	17	34.0%	1	2.0%	0.025*
Urban	15	37.5%	21	52.5%	4	10.0%	
Income							
300-500	17	65.4%	9	34.6%	0	0.0%	0.001*
500-1000	22	71.0%	9	29.0%	0	0.0%	
>1000 L.E	8	24.2%	20	60.6%	5	15.2%	

* $P < 0.05$ (significant)

MCP: Mont Carlo exact probability

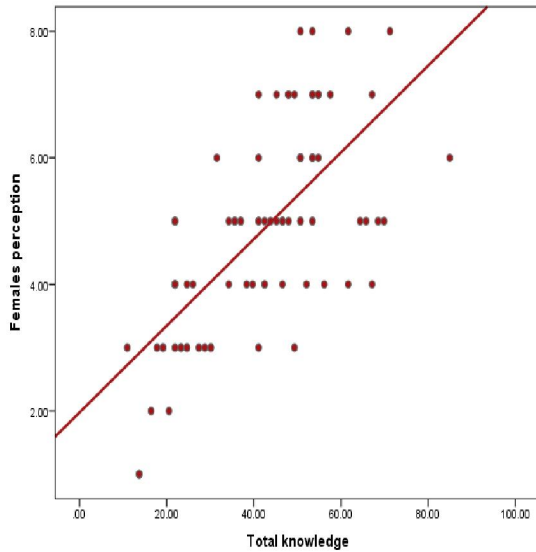


Figure (3): Correlation between patients' knowledge and their perception.

In relation to age, the present study represented that patients' ages ranged between (18 - < 60) years, it meant that mastectomy now nearly used for all ages and that due to similarity of surrounding factors that may worsen conditions. This result is in agreement with *barton, et al.,(2005)* ⁽¹²⁾ who demonstrated that mastectomy occurs across variant ages (18-80years).

Also This result is in agreement with *Patenaude, et al.(2008)* ⁽¹³⁾ who demonstrated that mastectomy occurs across variant age (31-87) years and with *Denewer, Farouk, Mostafaand Elshamy (2011)* ⁽¹⁴⁾ who demonstrated that mastectomy age ranged from 21 to 88 years. On the other hand, this result is in disagreement with *Bokhari, Mehmood, Nazeer and khan (2010)* ⁽¹⁵⁾ who presented that the average age of the mastectomy patients was (47.32 + 13.53 years).

As regards to educational level, the findings of the present study represented that, less than half of patients with middle education, less than one third of patients were illiterate, (24.4%) with university education and the lowest number of patients were read and write, so mastectomy affect all level of education. This study is in agreement with *Hagrass, Abd Allah, Hassan and EL Sawy (2012)* ⁽¹⁶⁾. This disagreement with the study by *Lee, et al, (2011)* ⁽¹⁷⁾ who represented that most of patients had a college degree.

Regarding marital status, the present study showed that, more than half of patients were married, less than half of patients were widow and few of them were single. This results is in agreement with *Netol, Moreira, Resende and Ferreira (2012)* ⁽¹⁸⁾ who demonstrated that more than half of mastectomy patients were married.

In reference to occupation, the present study results concluded that, more than half of patients were working, and nearly half were housewives. There is no difference between housewives and working women in making mastectomy and all patients were women. This result is in consistency with *Keskin and Gumus (2011)* ⁽¹⁹⁾ and disagreement with *Heidariand Ghodusi (2015)* ⁽²⁰⁾ who presented that most of patients were working and also disagreement with *Shandiz, Najafi, Shayeand Salehi (2015)* ⁽²¹⁾ who represented that most of patients were housewives (71%).

As Regards to residence, the present study showed that, more than half of patients lived in rural and slightly less than half of them lived in urban. there are no statistically differences between the different places of residence and mastectomy done, this agree with *Denewer, Farouk, Mostafa and Elshamy (2011)* ⁽¹⁴⁾ and disagreement with *Mātrai, et al, (2014)* ⁽²²⁾ who presented that more than half of patients from rural areas.

In reference to studied patients' income, the income of more than one third of studied patients had more than 1000 LE followed by the income of one third of studied patients ranged 500-1000 LE. This come in consistency with *Mohamed and El-Sebaee (2013)* ⁽²³⁾ who presented that 60% of BCS patients had sufficient income and disagreement with *Hagrass, Abd Allah, Hassan and EL Sawy (2012)* ⁽¹⁶⁾ who presented that more than two thirds of patients had insufficient monthly income.

Knowledge and perception of studied patients

Regarding distribution of patients according to their total knowledge as illustrated in (Fig 1), more than half of patients, had good general disease knowledge about surgery and that due to desire to know a lot about disease complications, operation and its effects.. Study by *Kwan, et al., (2012)* ⁽²⁴⁾ agree with our results as they found that about half of women had mastectomy surgery had more fair regarding total disease knowledge. This result is in disagreement with the study by *Brewster and Parker (2011)* ⁽²⁵⁾ who found that majority of patients (83.3%) had good knowledge about disease.

In relation to wound knowledge, our results indicated that more than half of patients had poor knowledge. This come in consistence with study by *Leyngold, et al., (2012)* ⁽²⁶⁾ who found that more than half of patients have poor wound knowledge. On the other hand, study by *Rosenberg, et al., (2013)* ⁽²⁷⁾ disagree with our results as they found that minor percentage of patients had poor knowledge about their wounds.

Regarding to pain knowledge, the results indicated that half of patients had fair pain knowledge. This results is in agreement with the results by *Rosenberg, et al., (2013)* ⁽²⁷⁾ who presented that half of

women had fair knowledge about post mastectomy pain. On the other hand this disagreement with the study by *Meijuan, Zhiyou, Yuwen, Ying, and Xinzhong (2013)*⁽²⁸⁾ who presented that younger age women had high predictive factor and knowledge about pain after surgery.

In reference to activity of daily living, half of patients had fair knowledge. Study carried out by *Paolini, Amoroso, Pugliese, Longo and Santanelli (2014)*⁽²⁹⁾ obtained results in consistent with our results, as they found that half of patients had fair knowledge about activity of daily living. Also, results obtained by *Musarezaie and Zargham (2015)*⁽³⁰⁾ indicated that slightly more than half of patients had moderate knowledge. In contrast to the findings, a study by *Kowalski, Lee, Ansmann, Wesselmann and Pfaff (2014)*⁽³¹⁾ revealed that only (19%) of patients in the hospital had fair knowledge about activity of daily living.

With respect to total knowledge score, more than half of patients had fair knowledge. Results of the study by *Krzywonos, Ochalek, Krzywonos and Pitala (2014)*⁽³²⁾ agree with our results since they indicated that 60% of patients had fair total knowledge. On the other hand, study by *Siekkinen, Kesänen, Vahlberg, Pyrhönen and Leino-Kilpi (2015)*⁽³³⁾ is in disagreement with our results because their results indicated that majority of patients had fair total knowledge about disease.

From results tabulated in table (2), It was apparent that nearly two thirds of patients don't have any perception about wound appearance after surgery, even they did not know how they will look after the mastectomy, our results come in the same vein of study of *Silva, Fernandes, Santos, and Almeida (2010)*⁽³⁴⁾ who reported that a lack of knowledge is observed among the interviewees and they are not aware of the real dimensions of the wound, while the situation is not the same in more developed countries where women are more acquainted by the appearance after surgery as the study of *Mátrai, et al., (2014)*⁽²²⁾ reported.

While both studies were agree with our study regarding patients' suffering from psychological problems on seeing the wound after surgery, and their disability to see the wound during cleaning and dressing change. On the other hand, study by *Wyona, et al., (2012)*⁽³⁵⁾ showed that the study subject had an ideas about their wound and they did not scared when they saw their selves in mirror after mastectomy surgery, the study emphasized the value of patients' faith as a supporting aid against fears and psychological problems.

About two thirds of patients under study perceived that mastectomy wound will extremely affect their life, nearly most of them had negative

feeling after the surgery which agree with study by *Arroyoand López (2011)*⁽³⁶⁾ who reported that, women thought that the surgery fractured their Imaginary Body and they will be a huge problem for them and will negatively affect all their life sides.

Majority of patients of the study knew about post mastectomy pain but only more than half of them expect that severity of pain. This result is in agreement with study by *Bagheri and Mazaheri (2015)*⁽³⁷⁾ who indicated the perception of patients about pain expressed that treatment process was more painful than the disease itself and that the process affects their general health and quality of life while they have expect pain post mastectomy.

Relation between different variables of the study

Regarding figure (2) which illustrated that more than half of patients had low perception about wound care after surgery. The study by *Mącik, Ziółkowska, and Kowalska (2012)*⁽³⁸⁾ come in the same consistent with the results which reported that half of mastectomies women had low perception about wound care after surgery.

In the other hand, our results disagree with results by *Seror, et al.,(2013)*⁽³⁹⁾ research who reported that only (10.2%) of study sample had low perception about wound care after surgery.

From results tabulated in table (3). The study revealed that there was statistical significant association between socio-demographic data (except age) and wound knowledge for studied patients.

In relation to education, all patients who only read and write, had poor knowledge. This come in consistence with results by *Khazae-Pool, et al., (2014)*⁽⁴⁰⁾ and disagreement with *Rankinen, et al., (2007)*⁽⁴¹⁾ Who presented that most of female patients and patients with a higher level of education require more attention and knowledge.

Regarding marital status, the results indicated that most of single patients, had fair knowledge. This is in agreement with Study by *Musarezaie and Zargham (2015)*⁽³⁰⁾ as it reported that majority of patients had fair knowledge. While study by *Al-Dubai, et al., (2011)*⁽⁴²⁾ disagree with our results as it indicated that singles on the average had high score in knowledge.

As regards to occupation, the current study exposed that most of housewives patients had poor knowledge. This results is in agreement with *Ahmadian, Samah and Emby (2011)*⁽⁴³⁾ and *Dekkers, Wind, Sluiter and Frings (2010)*⁽⁴⁴⁾ who found that unemployed or housewives women had low knowledge which can be explained by the favorable working conditions, positive personal characteristics of the employee, the influence of the social environment, and the influence of the personal cognitive situation. On the other hand, this results is in

disagreement with *Chua, Mok, Kwan, Yeo and Zee (2005)*⁽⁴⁵⁾ who indicated that full-time housewives were significantly more likely to have more knowledge compared to non-housewives (working) (49% versus 37%).

In reference to residence, nearly most of rural patients had poor knowledge. Which is in agreement with the results by *Hayes, Al-Naggar and Lina (2014)*⁽⁴⁶⁾ who stated that patients in rural had low knowledge because insufficient learning services. On the other hand, this results is in disagreement with results obtained by *Hagrass, Abd Allah, Hassan and EL Sawy (2012)*⁽¹⁶⁾ who noticed that no significant difference in level of knowledge according to place of residence.

As regards to income, most of patients with monthly income (500-1000) LE had poor knowledge. This result comes in agreement with *Chen, Diamant, Thind and Maly (2008)*⁽⁴⁷⁾ who stated that low income patients had low level of knowledge which can be explained as low income persons have no enough resources to improve their educational level educational and health services. This result doesn't correspond with *Judy, Allison, Amardeep and Rose (2014)*⁽⁴⁸⁾ who indicated the reverse as they observed that low income family were more care about gaining more knowledge.

There was statistical significant association between socio-demographic data and level of total knowledge post mastectomy as illustrated in table (4).

This result indicated that total knowledge among older adult women had lower knowledge comparing to younger patients, which can be explained that most of older adult women were illiterate, nonworking with low income which reduce their opportunity to improve their knowledge. Additionally, most of those women were widow that means they have no partnership supportive that can help them to raise level of knowledge. These results are in consistent with results by *Yang, Zhu, Yan (2015)*⁽⁴⁹⁾ who presented the same results and explained as there are several possible reasons for this knowledge limitations as education and working status especially for older adult.

Also result of this study is in consistent with study results of *Shouman, et al. (2016)*⁽⁵⁰⁾ who indicated that young women have more knowledge as they are more acquainted with modern aids for gaining knowledge such as internet web sites.

And disagree with *Yoon, Shim and Lee (2016)*⁽⁵¹⁾ who reported that majority of subject didn't have knowledge about surgery and the patients' perception of mastectomy that is not cure disease.

There was statistical significant association between each of age, education, marital status, work, residence and patients' perception about wound care post mastectomy for studied patients.

Regarding age, the results indicated that low perception about mastectomy wound care was found in most of women who aged higher than 50 than young women particularly (18 < 30), which agreed with study by *Mátrai, et al. (2014)*⁽²²⁾ who indicated that younger patients had more serious concerns about mastectomy.

Also, our results is in agreement with *Stavrou, et al. (2009)*⁽⁵²⁾ who presented that body image for younger women more important than older women so younger women had moderate perception than older women. On the other hand, results obtained by *Okobia, Bunker, Okonofua and Osime (2006)*⁽⁵³⁾ disagreed with our results as they stated that there was no significant difference in perception across different age groups.

As regards to level of education, most of illiterate and all women who read and write, had the lowest level of perception, this agreed with results obtained by *Allam and Abd Elaziz (2012)*⁽⁵⁴⁾ who stated that educated females reported higher level of perception (65%) compared to (52.9%) among non-educated females. On the other hand, our results disagree with study by *Hagrass, Abd Allah, Hassan and EL Sawy (2012)*⁽¹⁶⁾ who stated that all patients had low perception level regardless their level of education.

Also, these results disagree with *Yoon, Shim and Lee (2016)*⁽⁵¹⁾ who presented that (58.4%) of sample were colleague graduated and didn't understand mastectomy surgery.

Regarding marital status, most of widow patients had low perception. This corresponds with the results obtained by *Mącik, Ziółkowska, and Kowalska (2012)*⁽³⁸⁾ who reported that widow women had low perception about wound care after the surgery and this result is in disagreement with *Al-Naggar and Osman (2015)*⁽⁵⁵⁾ who reported that both widow and divorced women had moderate level of perception.

With respect to occupation of the patients, our results indicated that low perception was found among housewives patients. This results agree with results obtained by *Allam and Abd Elaziz (2012)*⁽⁵⁴⁾ who reported that housewives women had lower perception than working women while study by *Skrzypczak, Czerniak and Laski (2012)*⁽⁵⁶⁾ disagree with our results as it reported that the type of work is the determinant of the patients' perception regardless the woman works or not because the nature of the work gave them the ability to deal with their surgery.

In reference to residence, the result indicated that low level of perception was found among two thirds of women live in rural and this because rural patients didn't have sufficient learning services as urban patients, study of *Skrzypczak, Czerniak and Laski (2012)*⁽⁵⁶⁾ gave results in the same consistent with our results as they described that lower level of perception

among women living in small towns and villages and due to a generally lower level of education, may have a lower awareness of the disease, the treatment and effects than women from a large city environment.

Also, study by *Allam and Abd Elaziz (2012)*⁽⁵⁴⁾ agreed with our results as it indicated that patients in urban had higher perception than those live in rural regions. This result is in disagreement with study of *Yoon, Shim and Lee (2016)*⁽⁵¹⁾ who demonstrated that the place of residence of the participating women was analyzed, but no significant differences regarding affecting level of perception.

Figure (3) show that there is a significant positive correlation between total patients' knowledge and their perception. This mean that increase knowledge of studied patients lead to increase their perception. This agree with *Shouman, et al., (2016)*⁽⁵⁰⁾ Who stated that improving total patient's knowledge was associated with raising in their perception about the surgery and disagree with *Mahdy and Ali (2012)*⁽⁵⁷⁾ who noticed that basic patients knowledge were less importance while Pre-discharge Guidelines was essential and important to improve patients' perception.

Conclusion:

Based on the findings of the present study the following can be concluded:

- There is a need for structured discharged information for post mastectomy patients.
- Health care professionals need to be aware that patients who leave the hospital with little or no discharge information are more likely to develop concerns or problems that require them to access hospital.
- Health care professionals can make a significant contribution if they provide discharge information to patients prior to their discharge home.
- Addressing even relatively simple concern about discharge information can impact on patients' health during the recovery phase, and the utilization of health services.
- The oncology nurse should be the most important source of information for patients who are considering mastectomy.

Recommendations:

In the light of the findings of the present study, the following recommendations are suggested:

- Availability of instructional simple guide booklet for all breast cancer patients undergoing mastectomy to provide all needed information especially for wound care, drain care, dressing change, pain and daily activity.
- It should be emphasized the importance of health care professionals' role in assessing patients' situations appropriately and providing explicit and

relevant information, hence, more time should be spent on imparting post-operative care information to the patients.

- Planned discharge education should be prepared and should be given to women who have mastectomy as well as general education about post mastectomy care.
- Conducting comprehensive health education program for women following breast cancer surgery to maintain good adherence to self-care practices and preventing complications
- For further research studies:
 - a. Further studies are needed to increase follow up periods post mastectomy.
 - b. Further studies must be carried about Patients' psychological status post- operatively, coping with post-operative changes, and how it can affect on wound healing and surgery outcomes.

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