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## Impact of Psycho-educational Program on Body Image Concerns and Mental Adjustment among Post Mastectomy Women

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**Abstract: Background:** Breast cancer is a significant health problem worldwide, and a complex disease physically and psychologically. In many cases of cancer breast, mastectomy is a necessary treatment. Mastectomy is not an easy decision for any woman as it leads to changes in her everyday life and has significantly negative influence on those women body image. Consequently, women quality of life is affected with reference to social, mental and physical dimensions. **Aim:** This study aimed to assess the impact of applying a psycho-educational program on body image concerns and mental adjustment among post mastectomy women at the Oncology Center- Mansoura University. The design of this study is a quasi-experimental one. Subjects consisted of 44 post mastectomy women from the outpatient clinics of the Oncology Center- Mansoura University. In order to collect the necessary information for the study structured interview sheet was used to collect data. Three instruments were used for data collection: Socio-demographic and Clinical Data Structured Interview Schedule, Hopwood Post-Mastectomy Concerns of Body Image Scale, and the Mini-Mental Adjustment to Cancer Scale. **Results:** the study revealed that, there was statistical significant difference in scores of body image concerns between pre and post the psycho educational program ( $P < 0.001$ ), there was a statistically significant differences between the mental adjustment to cancer domains' mean score before and after the psycho educational program in relation to hopelessness and helplessness, anxious preoccupation, cognitive avoidance fatalism, and fighting spirit ( $P < 0.001$ ) and there was statistical significant difference in scores of mental adjustment between pre and post the psycho educational program ( $P \leq 0.001$ ). **Conclusion:** body image and mental adjustment of post mastectomy women improved significantly after the psycho-educational program. **Recommendations:** Implementation of the psycho educational program post mastectomy to improve women's use of appropriate coping strategies and to enhance their quality of life and Involvement the families of post mastectomy women in psycho educational programs is necessary to teach them how to support the patients socially and psychologically.

**Keywords:** Breast Cancer; Mastectomy; Body Image; Mental Adjustment; Psycho educational Program.

### INTRODUCTION:

Breast cancer is a major health problem and the most common type of cancer among women of both developed and developing countries, in addition to that it is the primary cause of cancer death in females aged from 20-59 years old (Zeeneldin, et al, 2013)[1]. Breast cancer has not only physical effect, but also psychological and social one. This may be due to the importance of the breast to woman's body image, motherhood and sexuality. If the women get breast cancer, they have many concerns and fears as physical appearance disfigurement, fear of recurrence and metastasis and lastly fear of death (Gupta, et al, 2012)[2].

There are several methods for treating this disease which might differ according to cancer stage and severity. They include chemotherapy, radiotherapy, and surgical treatment (Lynn, Glockler & Eisner, 2006)[3]. Mastectomy has been the most common surgical treatment procedure for women with breast cancer, it represents 81% of the surgical procedure. (Fazel, Tirgari, & Mokhber, 2008)[4].

Mastectomy involves partial or complete loss of one or two breasts resulting in breast asymmetry, poorly aligned breasts, extensive scarring, and alteration to nipple sensation, it need for a breast prosthesis, possible changes

to limb mobility and lymphoedema. It is not just a scar, but, it is an amputation which negatively influences female psychosocial status. (Kadela, Schootman & Aft, 2011)[5].

Moreover, mastectomy has significant influence on the psychosocial status result from physical and aesthetic deformity. This psychological effect includes depression, anxiety, and adverse effects on sexual function and body image. (Parker, et al, 2007)[6].

Body image, as part of self-concept, includes feeling attractive and feminine, enjoying one's body as a symbol of social expression. It relates to one's feelings, attitudes, and perceptions towards one's self. Body image may be influenced by medical factors. It also involves the appraisal of one's body appearance and functioning and refers to the person's feelings and conception about her body, its form, shape and size. Body image change is a problem which is present in most cancer cases due to the disease and treatment (National Breast Cancer Centre, 2000)[7].

The breast loss is experienced by woman as an assault to her body image, worrying about aesthetic features, which makes her not feel beautiful. This results in a low self-esteem ("non-self-esteemed" feelings) that drive the woman to hate and reject herself, leading her to an attitude of introversion,

insecurity, shyness and social isolation, these feelings weren't present before the surgery. Moreover, change in body image may result in loss of sexual desire, and a weakening in marital relationships, as woman ashamed of her damaged body image ( **Arroyo & Lopez, 2011**)[8].

Mental adjustment is a form of coping strategy usually used by women diagnosed with breast cancer. It is defined as "the cognitive and behavioral responses to a cancer diagnosis. It comprises both the appraisal (perception of the implications of cancer), and the ensuing reactions including thoughts and behavior to reduce the threat". Furthermore, breast cancer has its most profound impact on women's adjustment, although body image is frequently perceived as linking to physical appearance only, women express it as a sense of wholeness and functionality. Women who consider body image to be the main element of their sense of self-worth, completeness or attractiveness may be at an increased risk of poor psychosocial adjustment after breast cancer treatment (**Lexshimi, et al, 2014**)[9].

Interventions to decrease the burden of this disease, supporting and promoting a high quality of life and optimal psychosocial adjustment are necessary for women with mastectomy. Psycho-education is one of the most effective psychosocial interventions for cancer patients. It is a specific education that contains educational and psychosocial efforts to create behavioral changes in cancer patients and promote adjustment to mastectomy. Planned psycho-educational programs help the patients to cope and adapt to the difficulties accompanying the disease and surgery, allowing them to develop problem solving skills (**Reid, Lloyd & Groot, 2005**)[10].

#### **Significance of the study:**

In the year 2014, in the Oncology center, Mansoura University, the numbers of women with breast cancer amount to 5000 women. The number of women for which mastectomy was performed in this year was about 1500 women i.e., 30% of affected women. In the year 2015 up to date the number of women who had mastectomy in the Oncology center, Mansoura University is estimated to be 2000 women. This high prevalence of breast cancer and its negative consequences either physical or psychological associated with the surgical treatment, indicate the importance of doing intervention to help this women. As, after mastectomy many women complained of severe psychological problems regarding impaired body image, reduced self-esteem, feeling of losing their femininity, as well as feelings of depression, anxiety, denial, desperation, shame, guilt, isolation, fear of recurrence, and fear of death, (**Gamal, 2015**) [11].

Therefore, nurses dealing with this types of women should provide care to overcome this difficult experiences related to the disease and to adjust to living with cancer (**Akin, 2003**) [12].

#### **Aim of the study:**

The aim of this study was to assess the impact of applying a Psycho-educational Program on body image concerns and mental adjustment among post mastectomy women at the Oncology Center- Mansoura University.

#### **Research Hypothesis:**

Implementation of a developed "Psycho-educational program" on post mastectomy women will improve Body image concerns and Mental adjustment.

#### **Materials and Method:**

##### **Design:**

A quasi- experimental research design was followed in this study.

##### **Setting:**

The study was carried out at the outpatient clinics of Oncology Center- Mansoura University.

##### **Subjects:**

The subjects of this study composed of 44 post mastectomy women.

They were chosen under the following inclusion criteria:

##### **Inclusion criteria:**

- 1) Age: 20- 60 years.
- 2) After one year post mastectomy (this is because immediately after mastectomy those women receive radiotherapy and chemotherapy for at least one year).
- 3) Receiving hormonal Therapy (this is because post mastectomy women after receiving radiotherapy and chemotherapy for at least one year begin to receive hormonal therapy for five years).

##### **Exclusion criteria:**

- 1) Women who have other disfiguring surgical operations.
- 2) Women who have any other body disfigurements.
- 3) Women who are still receiving radiotherapy or chemotherapy

##### **Tools of data collection:**

Three tools were used in this study.

##### **Tool (I): Socio-demographic and Clinical Data Sheet:**

- A. This tool was developed by the researcher to assess all the socio-demographic data as, age, residence, marital status, occupation and educational level and clinical data of the subjects as, date of mastectomy, and history of co-morbid physical illness such as Diabetes Mellitus and Hypertension

##### **Tool (II): Hopwood post mastectomy concerns of Body Image Scale: (HBIS):**

This scale was developed by (**Hopwood, et. al., 2001**) [13] to assess three dimensions of body image in cancer patients: the Affective (e.g. feeling self-conscious), the Behavioral (e.g. difficulty looking at the naked body) and the Cognitive (e.g. satisfaction with appearance). The HBIS is composed of ten items uses 4 point Likert rating scale ranging: while 0= (Not at all), 1= (A little), 2= (Quite a bit), 3= (very much). The total score ranging from 0 to 30 degrees. Women with score from 0 to 10 have minimum concerns of their body image, women with score from 11to 20 have moderate concerns, and women with score from 21 to 30 have high concerns of their body image. The HBIS demonstrated good psychometric characteristics with adequate reliability (Cronbach's  $\alpha=0.93$ ) and adequate validity.

**Tool (III): The Mini-Mental Adjustment to Cancer Scale (Mini- MAC):-**

This scale was developed by (Watson, *et. al.*, 1994)[14], it is a 29-items designed to assess coping responses to cancer. The Mini- MAC is widely used with breast cancer patients to determine the extent to which they have adjusted to living with cancer. It includes five subscales: helplessness/hopelessness (9 items), anxious/ preoccupation (7 items), cognitive avoidance (4 items), fatalism (5 items), and fighting spirit (4 items). The original scoring system uses 4 point Likert rating scale ranging: from (1 = definitely does not apply to me, 2= does not apply to me, 3= applies to me, 4 = definitely applies to me) with a total score ranging between 29 and 116 degrees. Women with score from 29 to 59 have poor mental adjustment, while women with score from 60 to 89 have fair mental adjustment, and women with score from 90 to 116 have good mental adjustment. The five original subscales (Helplessness and Hopelessness, Anxious/ Preoccupation, Cognitive Avoidance, Fatalism and Fighting Spirit) showed acceptable levels of reliability (Cronbach alpha coefficients ranging from 0.55 to 0.80). In the current study scores on domains (Helplessness/Hopelessness and Anxious /Preoccupation) were reversed (4 = definitely does not apply to me, 3= does not apply to me , 2= applies to me, 1 = definitely applies to me) to measure levels of improvement in these two domains and to ensure statistical analysis consistency among all five domains.

**METHOD**

- An official approval for conducting the study was obtained from the director of Oncology Center of Mansoura University and the head of the Medical Out-patient Clinics of Oncology Center of Mansoura University.
- Translation into Arabic language of the Hopwood post mastectomy concerns of Body Image Scale and Mental Adjustment to Cancer Scale was done through Back Translation Procedure and revision by two professors in psychiatric nursing and one professor in oncology.
- A pilot study was carried out on 10 % of the studied number of post mastectomy women to ensure the clarity, applicability and feasibility of the study tools, and necessary modifications were done.
- Each subject was interviewed individually before applying the planned program to collect the necessary data in privacy using all study tools, (Socio-demographic and Clinical Data Sheet, Hopwood Body Image Scale and Mini-Mental Adjustment to Cancer Scale) at the medical outpatient clinics of Oncology Center- Mansoura University.
- The psycho educational program was developed by the researcher after reviewing the relevant literature to help post mastectomy women to improve their body image and mental adjustment.
- The actual study was conducted during a period from the beginning of April 2018 to the end of September 2018.
- The program included three phases:

**1- The pre-intervention phase:**

- The researcher met with the patients individually, introduced herself, and explained the aim of the study to obtain their consent to participate in the study, and to gain their cooperation and confidence.
- The researcher started to fill-out the study tools from the participants through individual interviewing until reached the total number of 44 post mastectomy. This interview took about 15 – 20 minutes.

**2- The intervention phase**

After selection of the study subjects, the Psycho\_educational program sessions were started with the patients.

- Twelve sessions were used to apply the program, each session lasted for 45- 60 minutes along 12 weeks.
- Subjects were classified into eight sub groups; (each involved 4-6 women).
- At the beginning of each session, the researcher welcome the subjects of each group, reassure them, assess their physical and emotional status, and setting goals for each session that will include the discussion of the prior homework from the last session and how to achieve the purpose of each session.
- The program was implemented through various teaching methods as brain storming, lecture by using Power point Presentation, and group discussion. The teaching media included power-point presentations, simple pictures and educational booklet.

**Program sessions**

**“Session one”**

**Title:** Rapprochement and Mutual understanding.

**The main goals:**

- Develop verbal protocol for cooperation between the investigator and members of each group. This protocol sets the rules and the instructions of the program implementation.

**“Session two”**

**Title:** Psycho-education about the nature the disease of breast cancer.

**The main goal:**

- Increases awareness and knowledge about breast cancer.

**“Session three”**

**Title:** Problem solving skills training.

**The main goal:**

Training on problem solving strategies for identifying and utilization of the best techniques for dealing with difficult situations related to mastectomy to and thus improve adjustment to disease.

**“Session four”**

**Title:** (Cognitive restructuring): Transform negative thoughts into positive thoughts.

**The main goal:**

Training group members on how to reconstruct ideas to replace negative thoughts about body image as a result of mastectomy with positive thoughts to improve their perception of their bodies and improve mental adjustment.

**“Session five”**

**Title:** Principles of Self Esteem

**The main goals:**

Train women to increase their self-esteem and self-confidence to improve their ability of solve problems to help them to adjust to stress and improve their negative perception of their body.

**“Session six”**

**Title:** Positive Self Talk

**The main goals:**

Training women to talk positively with self and about self with others to increase self-confidence, self-efficacy and reduce the negative feelings of stigma and loss of breast in order to help them improve their perception of their bodies.

**“Session seven”**

**Title:** Improving body image

**The main goals:**

Training to improve their negative perception of their body to increase their self-esteem and self-confidence to improve their adaptation of actual/altered body image disturbance to relief the tension and anxiety associated with mastectomy

**“Session eight”**

**Title:** Development of effective communication skills with self and others.

**The main goal:**

Learn effective communication skills to help them express negative feeling in proper way and be able to handle the sense of loss or stigma that resulted from mastectomy. Effective communication would facilitate interaction between women and their husbands, children, relatives, colleagues, or other people in their social circle.

**“Session nine”**

**Title:** Management of negative Feelings

**The main goals:**

Training to control and manage negative emotions associated with mastectomy to improve self-efficacy

**“Session ten”**

**Title:** Stress management techniques

**The main goal:**

Learn methods of coping and stress management techniques to adapt to the problems resulting from mastectomy to improve mental adjustment.

**“Session eleven”**

**Title:** Relaxation techniques.

**The main goals:**

Train to exercise relaxation techniques to reduce the tension and anxiety associated with thinking about the disease.

**“Session twelve”**

**Title:** The termination session.

**The main goal:**

- Enhance self-instruction so that each individual will maintain her progress in reducing stress and benefit from the techniques used in previous sessions.
- Termination of the program and evaluation work.

**3- The post-intervention phase:**

Immediately, after the implementation of the program at the end of the 12th session, the researcher reassessed the study

subjects using the same study tools used in preprogram assessment.

**Ethical considerations:**

- An informed consent was obtained from the selected patients after explanation of the purpose and benefits they would gain from joining in the study. They will be assured that collected data will be completely confidential and will only be used for the purpose of the study.
- Privacy and confidentiality of the patients were assured and participants were allowed to withdraw from the study at any stage without any responsibility

**Statistical analysis:**

Data were analyzed by SPSS version 21. The normality of data was firstly tested by Shapiro-Wilk's test. Qualitative data were presented using numbers and percentage. Continuous variables were presented as mean  $\pm$  SD (standard deviation) if parametric data or median and interquartile range (IQR) if not.

**RESULTS**

**The results of this study are presented in the following sequence:**

**Part I:** Socio-demographic characteristics and clinical data of the studied patients (Tables, 1 - 2).

**Part II:** The impact of implementing psycho-educational program on the studied patients body image concerns and mental adjustment to cancer pre and post the psycho-educational program (Tables, 3- 5) & (figures, 1- 2).

**Table (1)** shows that, less than half of the studied patients (45.5%) were in the age group from 40 - <50 years and the minority of them (6.8%) were in the age group from 20- <30 years. Regarding education, around one third of the studied patients (34.1 %) had secondary level while (31.8%) were illiterate. In relation to marital status, the majority of the studied patients (84.1%) were married and the rest (15.9) were widow. Concerning residence, more than half of the studied patients (52.3%) were lived in rural areas. As regard to occupation, and about three quarters of the studied patients (72.2%) were housewives.

**Table (2)** demonstrate that more than three quarters of the studied patients (79.5%) don't suffer from medical diseases, concerning date of mastectomy, about one third of the studied women (30%) had mastectomy since 4-5 years, one quarter of the studied women (25%) had it since 1- <2 years and another quarter had it since 1- <2 years .

**Table (3)** demonstrates that, more than three quarters (79.5%) of the studied patients had high concerns of their body image before the psycho educational program and one fifth of them (20.5%) had moderate concerns. After the psycho educational program, more than two thirds of the studied patients (70.5%) had moderate concerns of their body image and nearly one third of them (29.5%) had minimum concerns of their body image and none had high concerns.

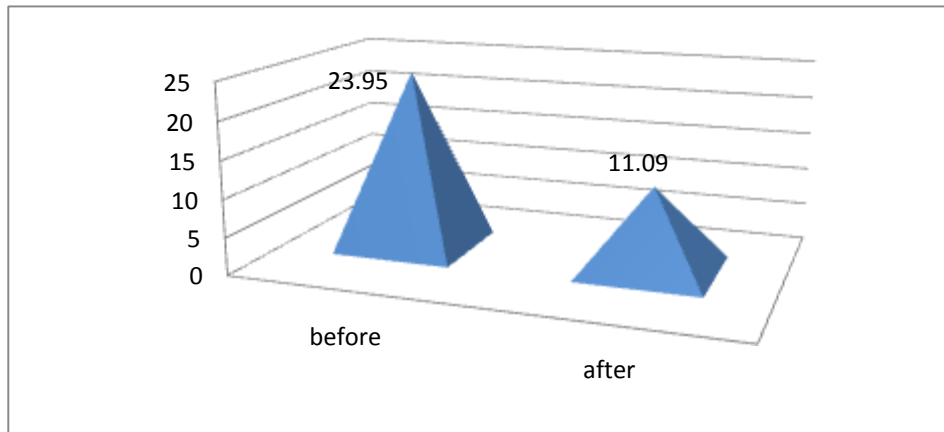


Figure (1): Total body image concerns mean scores of the studied women before and after the Psycho-educational program

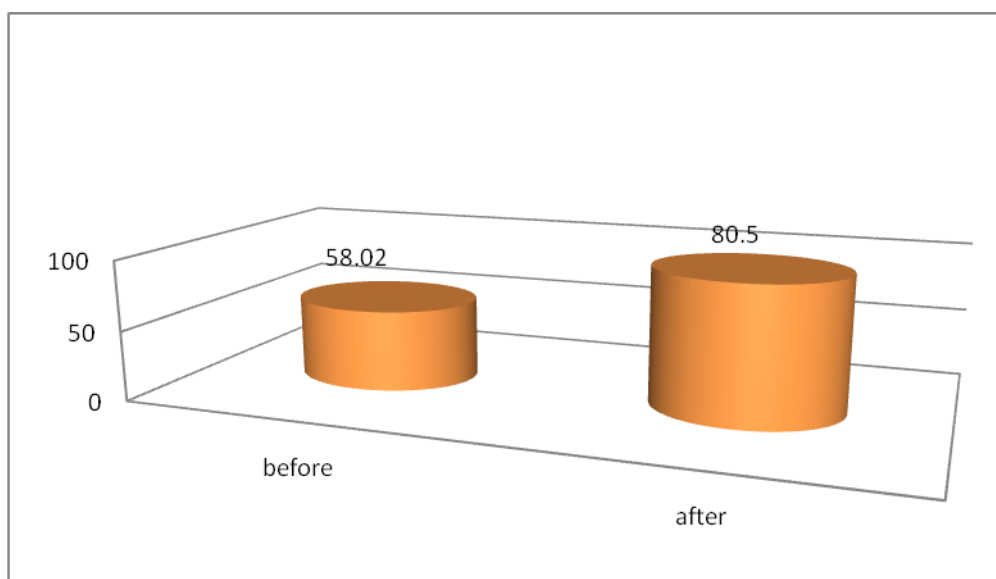
Figure (1) shows that, there was significant decrease in mean scores of post mastectomy body image concerns after the psycho educational program with mean (11.09 ±3.2) compared to (23.59 ±5.6) before the psycho educational .

Table (4) show statistical significant improved differences between the mental adjustment to cancer domains' mean scores before and after the program in relation to all scale domains. Domains of Helplessness/Hopelessness and Anxious/ Preoccupation as reverse scoring indicate less hopelessness/ less helplessness and less Anxious/ less Preoccupation.

Concerning Helplessness and Hopelessness there was significant increase in the mean scores of less hopelessness and less helplessness after the psycho educational program with mean (20.32 ± 1.9) compared to the mean score of less hopelessness and helplessness before the psycho educational program with mean (15.27 ± 4.3) at p<0,0001. In relation to less Anxious Preoccupation, there was significant increase in the mean score of less anxious preoccupation after the psycho educational program with mean (15.73 ± 2.1) compared to the mean score of anxious preoccupation before the psycho educational program with mean (8.23 ± 1.9) at p<0,0001.

Regarding cognitive avoidance, there was significant increase in the mean score of cognitive avoidance after the psycho educational program with mean (13.14 ± 1.2) compared to the mean scores of cognitive avoidance before the psycho educational program with mean (9.39 ±1.8) at p<0,0001. Speaking about fatalism, there was significant increase in the mean score of fatalism after the psycho educational program with mean (18.64 ± 0.8) compared to the mean score of fatalism before the psycho educational program with mean (16.23±1.8) at p<0,0001.As regard to fighting spirit, there was significant increase in the mean score of fighting spirit after the psycho educational program with mean (12.68 ± 1.6) compared to the mean score of fighting spirit before the psycho educational program with mean (8.91±2.2) at p<0,0001. The total mean scores of all scale domains were statistically significantly different at p<0,0001

Table (5) shows that, around two thirds of the studied patients (65.9%) had poor mental adjustment and about one third of them (34.1%) of them had fair mental adjustment before the psycho educational program. After the psycho educational program, the majority of the studied patients (81.8%) had good mental adjustment.



**Figure (2): Total mental adjustment mean score of the studied women before and after the Psycho-educational program**

**Figure (2)** demonstrates that, there was significant increase in the mean scores of mental adjustment after the psycho educational program with mean ( $80.5 \pm 3.4$ ) compared to the mean score of mental adjustment before the psycho educational program with mean ( $58.02 \pm 5.7$ ).

## DISCUSSION

The universal burden of breast cancer in women measured by incidence, mortality, and economic costs is substantial and on the increase. It is expected that more than one million women are diagnosed with breast cancer every year, and more than 410,000 die from the disease worldwide (**WHO, 2016**)[15]. Mastectomy is a must treatment in many cases of breast cancer. It may provoke psychological challenges as depression, anger, vagueness about the future, hopelessness, fear of recurrence of cancer, fear of separation from relatives, fear of pain, low self-esteem, body image impairment, anxiety of not being loved or shown interest, and fear of death (**Izci, et al , 2016**)[16].

Furthermore, breast cancer has the greatest survival rates among cancer types and there have been recent improvements in treatment. Today it is being seen as a chronic illness with several constant medical and non medical troubles. It needs more interventions to decrease burden of this disease, improved survival rates and lead to optimal psychosocial adjustment among patients with mastectomy (**Ioh & quek, 2011**) [17].

Therefore, the current study aimed to assess the impact of applying a "psycho educational program" on body image and mental adjustment among post mastectomy women at the Oncology Center- Mansoura University.

Results of the current study revealed features describing the selected studied sample. The socio-demographic characteristics of the present study showed that the most prevalent age group of mastectomy is ranging between (40 - <50) years old constituting less than half of the studied patients. This finding indicate that women by reaching the age of maturation and productivity constitute the largest portion of affected population. In addition mastectomy at the age of 40 to 50 years old cause further shock for those women who come close to the maturational crisis of menopausal phase and start to suffer number of threats to their sexuality and femininity leading to the development of several psychological disorders only to mention depression, despair, fear, anxiety, anger and resentment. Prevalence of this age group has been found congruent with other studies in Egypt as **Ahmed, Mohamed& Hamza, (2010)** [18] and USA as **Armstrong, et al, (2007)** [19]

Regarding education, around one third of the studied patients (34.1 %) were secondary education while (31.8%) were illiterate, (25 %) were read and write and (9.1 %) were illiterate. These findings are congruent with **El- Sayed & Ali, (2011)** [20] who reported that (38.1) were secondary educated and (38.1%) were highly educated. Conversely, **Gulseren& Aysun, (2011)** [21] reported that 11.7% of their mastectomy patients were illiterate, 70.3% were primary

educated, 9.6% were secondary educated and 8.5% were highly educated.

In relation to marital status, the majority of the studied patients (84.1%) were married. This is congruent with **Rey, et al, (2017)** [22] who stated that 64.9% of mastectomy women were married. In fact the problem of mastectomy poses a threat to the marital life of these women particularly as disfigurement of the sexual figure may produce feelings of shame, anxiety and over sensitivity.

Concerning residence, more than half of the studied patients (52.3%) were lived in rural areas and (47.7 %) were lived in urban areas. This study is consistent with another Egyptian study by **Abdou, et. al, (2012)** [23] who reported that 52.5% of mastectomy women are living in rural residence and 47.5 % are living in urban residence.

As regard to occupation, about three quadrants of the studied patients (72.2%) were not working patients. This is congruent **Gulseren & Aysun, (2011)**[21] who reported that 79.8% of post mastectomy women were housewives and **Ilknur & Hatice, (2011)** [24], who reported that 39.6 % of mastectomy patients were employed, and 60.4% were unemployed. In contrast, **El sayed& Ali, (2011)** [20] reported that about two thirds 64.29% of the post mastectomy women were working, while 35.71% of them were house-wives. Not working and being house wives might in a majority of the sample is congruent with being married and living in rural residence. It should also be noted that being housewives did not stop those women from seeking treatment, even as such an invasive type.

According to the hypothesis of the current study: Implementation of "Psycho-educational program" on post mastectomy women will improve their body image and mental adjustment, the present study findings were reflected by tables and figures indicated that the difference between pre and post-test scores of the studied women were significant and support the study hypothesis.

Body image changes after mastectomy can lead to long-term distress. Breast cancer survivors may experience prolonged psychological distress, mainly relates to negative changes in the woman's perception of her physical appearance or body image, even though the fact that the woman may be medically well . Body image reflects a direct personal perception and self-appraisal of one's physical appearance, whereby negative belief and feelings related to one's body show body image disturbance and result in dissatisfaction with one's self (**Stokes &Frederick, 2003**)[25].

In this respect, Findings of the current study revealed that there was significant decrease in the mean score of post mastectomy body image concerns of the studied women after the psycho educational program, and there was a statistically significant difference between levels of body image concerns before and after the psycho educational program. It could be explained that, participation in group discussion, Learning women to transform negative thoughts about their bodies into positive thoughts to improve their negative perception of their bodies can increase their self-

esteem and self-confidence and improve their adaptation of actual/altered body image disturbance and reduce the negative feelings of stigma and loss of breast.

This result is in congruent with **Baucom, Porter, Kirby (2009) [26]** who reported that women with mastectomy report improvement in their body image outcomes after psycho educational intervention. similarly, **Cash &Hrabosky (2003) [27]** stated that women became significantly more satisfied with their appearance, reported lower anxiety, less body image concern, and fewer appearance investment as a source of self appraisal after participating in psycho educational program.

In the same line, **Voigt, Grimm, Schneider, (2007) [28]** and **Mbroeck, et al, (2011)[29]** stated that, women demonstrate improve body image outcomes after psycho educational program. In contrast, **Andreis,(2018) [30]** found that there was no significant effect on body image after psycho- educational program for women with mastectomy .

Mental adjustment is another form of coping strategy popularly used by women with breast cancer. It is defined as cognitive and behavioral responses made by individuals to fight life-threatening diseases. It is not only effective in influencing the prognosis of breast cancer, but also, disease progression and quality of life, Mental adjustment is known to vary among individuals across ethnic groups, and do have an impact on women's survival rate and life satisfaction (**Lexshimi, et al, 2014) [9]**.

Regarding the impact of the psycho educational program on mental adjustment to cancer of the studied women. Findings of the present study revealed that there was significant increase in the mean score of mental adjustment to cancer of the studied women after the psycho educational program. This is explained by that women knowledge about their illness increased after the psycho-educational program, they faced their problems more easily, they spoke about themselves and their problems in a more comfortable way, they had lower levels of guilt and isolation, they felt a sense of belonging in the group, and their disease-fighting power was improved through talking to other women with the same experiences, sharing experience and learning from each other were useful in improving mental adjustment.

The intervention program also used techniques to overcome stress such as diaphragmatic deep breathing, pursed-lips breathing and mindfulness meditation. These techniques can reduce, tension, anxiety and stress and increase feelings of relaxation and emotional well-being and helped them addressing, identifying, reevaluating and prioritizing stressors and their appropriate coping strategies. Additionally, the educational sessions also provided women with information on how to make healthy lifestyle changes; how to communicate with family and friends through teaching them about communication skills, how to control and manage negative emotions associated with mastectomy and express their feeling in positive way.

In other view, the significant increase in mental adjustment to cancer scores after program was probably because of the program teach the studied women the use of positive self

talk and replacing negative thoughts about their bodies after mastectomy by positive ones, learning them to control and manage their emotions related to mastectomy.

This result is harmonious with **Dastan & Buzlu,(2012)[31]** who stated that psycho education cause positive changes in levels of adjustment to cancer in patients with breast cancer. Similarly. **Moyer, et al, (2009)[32]** mentioned that patients with cancer participated in psycho educational program involve coping skills training, relaxation training, and cognitive restructuring had increased adjustment to cancer after the program.

Findings of the present study illustrated increase total mean score of all domains of mental adjustment to cancer (less hopelessness/ less helplessness, less anxious/less preoccupation, cognitive avoidance fatalism, and fighting spirit). The present findings are in agreement with **Ross, Boesen, &Dalton (2002)[33]** who stated that women participating in psycho-educational program had elevated levels of fighting spirit, lower levels of helplessness/hopelessness, anxious/ preoccupation and fatalism and there was no change in the levels of cognitive avoidance. In contrast, **Fukui, Kugaya, Okamura, (2000) [34]** found that the mean score of the sub-dimension of 'fighting spirit' after the education was significantly higher while there were no statistically significant differences on the other sub-domains, which meant that the fighting spirit was the most effective coping style among women with breast cancer.

## CONCLUSION

Based on the findings of the present study, it can be concluded that, body image concerns and mental adjustment of post mastectomy women improved significantly after psycho-educational program.

## RECOMMENDATIONS

- 1) Health care providers should encourage post mastectomy women to participate in psycho-educational programs to understand behavioral changes and to reduce feeling of stigma and loss after mastectomy to improve their quality of life.
- 2) Psycho educational programs including Cognitive behavioral interventions should be used in conjunction with usual treatment for breast cancer patients to promote the use of appropriate coping strategies and enhance quality of life.
- 3) Involvement the family of post mastectomy women in psycho educational programs is necessary to teach them how to support the patients socially and psychologically.
- 4) Development of educational program for all nurses and other health care providers in hospitals focusing on caring for people with breast cancer and increasing their awareness about psychological problems associated with breast cancer.
- 5) Provision of psychological services should be ensured to help patients to cope with their condition after mastectomy.

**Table (1): Distribution of the studied women according to their socio-demographic characteristics (N = 44):**

Socio-demographic characteristics	Number (n)	Percent (%)
Age in years		
20- <30	3	6.8
30- <40	12	27.3
40- <50	20	45.5
50- 60	9	20.5
Education		
Illiterate	14	31.8
Read and write	11	25.0
Secondary education	15	34.1
University education	4	9.1
Marital status		
Single	0	0
Married	37	84.1
Divorced	0	0
Widow	7	15.9
Residence		
Rural	23	52.3
Urban	21	47.7
Occupation		
Working	12	27.3
Housewives	32	72.7

**Table (2): Distribution of the studied women according to their clinical data (N = 44):**

Clinical data	Number (n)	Percent (%)
Medical diseases		
Yes	9	20.5
No	35	79.5
Date of Mastectomy		
1- < 2 years	11	25
2 - <3 years	11	25
3 - <4 years	9	20
4 – 5 years	13	30

**Table (3): levels of post mastectomy body image concerns of the studied women before and after the Psycho-educational program (N=44):**

Levels of post mastectomy body image concerns	Psycho-educational program				Significance	P value*
	Before		After			
	N	%	N	%		
Minimum concerns of their body image	0	0.0	13	29.5	$\chi^2 = 60.100$	<0.001*
Moderate concerns of their body image	9	20.5	31	70.5		
High concerns of their body image	35	79.5	0	0.0		
<b>Mean ± SD</b>	23.95 ± 5.6		11.09 ± 3.2		t= 24.369	<0.001*



**Table (4): Mean scores of Mental Adjustment to Cancer of the studied women before and after the Psycho-educational program (N=44):**

Mental Adjustment to Cancer by domains	Psycho-educational program		Significance	P value*
	Before	After		
	Mean ± SD			
Reduced Hopelessness / helplessness	15.27 ± 4.3	20.32 ± 1.9	t=23.616	<0.001*
Reduced Anxious/ preoccupation	8.23 ± 1.9	15.73 ± 2.1	t = 37.360	<0.001*
Cognitive avoidance	9.39 ± 1.8	13.14 ± 1.2	t = 19.744	<0.001*
Fatalism	16.23 ± 1.8	18.64 ± 0.8	t = 10.343	<0.001*
Fighting spirit	8.91 ± 2.2	12.68 ± 1.6	t = 15.525	<0.001*
Total Mental Adjustment to Cancer by the domains' mean score	58.02 ± 5.7	80.50 ± 3.4	t = 47.103	<0.001*

**Table (5): Levels of mental adjustment to cancer of the studied women before and after the Psycho-educational program (N=44):**

Levels of mental adjustment to cancer	Psycho-educational program				Significance	P value*
	Before		After			
	N	%	N	%		
Poor mental adjustment to cancer	29	65.9	0	0.0	$\chi^2 = 84.250$	<0.001*
Fair mental adjustment to cancer	15	34.1	8	18.2		
Good mental adjustment to cancer	0	0.0	36	81.8		
<b>Mean ± SD</b>	58.02 ± 5.7		80.50 ± 3.4		t = 47.103	<0.001*

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