Impact of Mastectomy on Coping Strategies, Body Image and Self-Satisfaction for Egyptian Females

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Abstract: *Breast cancer is the most prevalent cancer among Egyptian females. Mastectomy results in a series of disabling psychological, social and physiological stressors, which vigorously affect the mastectomiesed females' coping strategies, body image and self-satisfaction. The aim of this study was to assess the impact of mastectomy on coping strategies, body image and self-satisfaction for Egyptian females*
Design: *A descriptive research design was utilized.*
Setting: *The current study was conducted at the Oncology Institute outpatient clinics of Menoufia University Hospital, Menoufia Governorate, Egypt.*
Subjects: *A convenience sample consisted of 120 Adult mastectomiesed female patients.*
Tools: *1.Participants' characteristics questionnaire was developed by researchers to assess patients' socio-demographic and medical data. 2. Cancer coping strategies questionnaire was adopted to assess perceived coping strategies used by mastectomiesed females. 3. Final Version of the Body Image after Breast Cancer Questionnaire (BIBCQ): It was adopted to assess changes in body image for mastectomiesed females regarding individuals' appearance, feelings, and behaviors or any changes that may have resulted from the cancer or its treatment. 4. Rosenberg Self-esteem Scale was adopted to assess perceived self-esteem. 5. Self-confidence after mastectomy scale: It is a 5 points Likert scale was adopted to assess perceived self-confidence for mastectomiesed females.*
Results, *the majority of the studied mastectomiesed females 95% and 78.3% respectively had mild coping and Poor self-confidence while, more than half of them 55.8% and 54.2% respectively had poor satisfaction with their body image and self-esteem. Moreover, statistical significance was observed regarding patients' sociodemographic characteristics in relation to total scores of coping strategies, self-esteem and self-confidence scales while no significance was observed for body image.*
Conclusion, *the Egyptian mastectomiesed females experienced serious physical and psychological harm, which negatively affected their coping strategies and consequently resulted in, decreased satisfaction with their body and self. Therefore, it is highly*
Recommended *that mastectomiesed females should receive a multidimensional management including all physical, psychological and social aspects of their life in all stages of treatment for encouraging them to cope, which consequently will increase their satisfaction with their body image and self.*
Keywords: *Coping Strategies - Body Image - Self-Satisfaction - Post Mastectomy*

I. Introduction

Breast cancer is the most prevalent cancer among women worldwide [1]. It is the second leading cause of cancer related deaths in women after lung cancer as it is estimated that over 508 000 women died in 2011 due to breast cancer comprising 1 in 38 (about 2.6%) women with breast cancer [1,2]. In addition, The American Cancer Society's estimated that one in eight women born today will be diagnosed with breast cancer at some time in her life [3] so, there will be 15 million new cases every year by 2030 [4].

Globally, breast cancer incidence has increased at an alarming rate to be varied from 90.1 per 100,000 women in America, 89.7 per 100,000 women in Europe, 30 per 100,000 women in Asia and19.3 per 100,000 women in Africa [5].

In Egypt, breast cancer ranked as the first type of cancers affecting females and accounts for 37% of women's cancer with an incidence rate increased from 24.2 per 100,000 women in 2010 [6] to 49.6/100,000 in 2014 thus considered as a major public health problem in Egypt [7].

The breast is considered a part of a woman's identity in many cultures as it represents femininity, sexuality, beauty, motherhood, and feeding infants [8]. Since the breast is not just a gland that receives hormonal

influences, but also an area that has caught a lot of attention in our culture for being part of the female's body image and has an indisputable erogenous value to both the affected person and her couple [9].

Having breast cancer regardless of the stage can be stressful, influencing multiple aspects of patient's life; disrupting physical and psychological status, emotional and spiritual well-being and personal relationships which comprising a burden on patients and their families [10].

Mastectomy is the loss of one or both breasts which may evoke feelings of mutilation and altered body image, diminished self-worth, loss of a sense of femininity, decrease in sexual attractiveness and function, anxiety, depression, hopelessness, guilt, shame, and fear of recurrence, abandonment and/or death [11&12].

Although advances in breast cancer treatment, mastectomy continues to be required in almost all cases comprising 40% of breast cancer treatment modalities. This is due to various reasons; size or position of the tumor, anticipating a bad cosmetic result, small breast, multifocal tumor, a woman's request,...etc [13]. Mastectomy can range from removing the cancer and some nearby breast tissue to removing the entire breast, skin, nipple, and underarm lymph nodes. It can also involve one or both breasts [11]. Modified radical mastectomy is the most common surgery comprising (63%), while breast-conserving surgery is the second with 36% and only 1% of patients had radical mastectomy [8&13].

Coping was defined as a dynamic process involving cognitive and behavioral efforts to enable people to live with internal or external demands brought about by disease [11&14]. Coping strategies are attitudes that facilitate interpersonal relationships and the individual's physical and psychosocial comfort [15]. Women with breast cancer often employ a number of cognitive and behavioral strategies to cope with the various perceived stressful situations they experience [16]. In addition, stress and negative emotions may lead the patient to use different types of coping strategies, which can include positive problem solving, escape or avoidance and seeking social support [17].

Woman with breast cancer regularly go through the psychological experience of femininity loss so, she does not feel beautiful and she feels that her personal charm no longer exists. Because of the distressing image of breast cancer sexual impact, woman can experience sexual troubles as a side effect to cancer therapy reduces her libido and sexual satisfaction. Seventy percentages of post mastectomy women experience disfigured, impaired sexuality which results in long-term sexual harm than any cancer can cause [18&19].

Body image is the mental picture of one's body, an attitude about the physical self, appearance, and state of health, wholeness, normal function, and sexuality. Negative perception of body image among breast cancer survivors includes dissatisfaction with appearance, perceived loss of femininity, loss of body integrity, reluctance to look at one's self naked, feeling less sexually attractive, self-consciousness about appearance, and dissatisfaction with surgical scars [19]. Mastectomy results in a permanent change in the female's appearance resulting in body image dissatisfaction, which is a negative distortion of one's body especially, happens among women [20].

The degree of severity caused by surgical interventions is often related to the alteration in the anatomic and psychic configuration and to the negative societal reactions. Dissatisfaction with body image, poor self-esteem and poor self-concept usually experienced by patients who had a disfiguring surgery often result in feelings of inferiority among them [21]. Because self-esteem, self-confidence and body image all are interrelated psychological aspects that affect the person's life [22] consequently, feelings of hopelessness, worthlessness, and helplessness resulting in decreased coping with their disease, all are common among this group of patients ultimately resulting in narcissistic delegation of the self [23&24].

Because breast is considered an integral part of the female's self-worth, so mastectomy results in loss of self-worth, which consequently leads to a fall in the self-esteem leading her to an attitude of introversion, withdrawal, shyness, insecurity, confinement, and/or social inhibition. Emotional distress, a sense of disconnection from one's body and a diminished sense of femininity are frequently observed among many breast-cancer females who have undergone mastectomy [13,16]. Self-esteem and self-confidence is defined as how a person sees himself/herself and expresses attitudes of self-approval or self-rejection and self-judgment regarding competency and value [23]. It is a personal judgment, revealed through attitudes that a person has regarding herself and personal beliefs about her abilities, capacities, and social relationships [24].

Women with breast cancer need supportive care to alleviate psychological distress and assist them to adapt and to cope with this stressful situation [25]. Hereby the important nurse's role to provide supportive care needed for those group of patients to reduce their perception of illness severity, allow psychological adjustment, and quality of life to be maintained [26&27].

Significance of the study:

In Egypt, the figure for people suffering from breast cancer is alarming. Breast cancer accounts for 35.1% of all cancer cases and is the most prevalent cancer among Egyptian women comprising the highest incidence among Egyptian population (12 cases/100,000 populations); now it has been increased by about 4

folds (about 50 cases/100,000 populations) over the last 33 years. The median age at diagnosis for breast cancer in Egypt is ten years younger than in the United States and Europe [28&29].

Aim of the Study: The aim of the current study was to assess the impact of mastectomy on coping strategies, body image and self-satisfaction for Egyptian females.

Research questions:
1. What is the effect of mastectomy on females' coping strategies, body image and self-satisfaction?
2. Is there any statistical relationship between females' sociodemographic characteristics in relation to their coping strategies, body image and self-satisfaction?

Operational definitions

Coping: is defined as any effort used to manage and overcome physical and psychological changes resulted from breast cancer diagnosis and its treatment, in the current study it was obtained and measured by the total score of the adopted 20-item Cancer Coping Strategies Questionnaire [30&31].

Body image is the persons' perception of their own body and how they see themselves according to the standards that have been set by society, in this study it was measured through using the adopted Final Version of The Body Image after Breast Cancer Questionnaire (BIBCQ) [32&33].

Self-Satisfaction: Self-satisfaction in this study included both self-esteem and self-confidence. Self-esteem was measured by the adopted Rosenberg's self-esteem scale [34&35] while, self-confidence was measured through using the adopted self-confidence after mastectomy scale [36&37].

Post mastectomy females: In the current study are those who had mastectomy since less than three months.
Subjects and Method
Research Design: A descriptive research design was used in this study.
Setting: The current study was conducted at the Oncology Institute outpatient clinics of Menoufia University Hospital, Menoufia Governorate, Egypt.
Subjects: This descriptive study was adopted a convenience sampling technique; sample consisted of 120 Adult mastectomiesed female patients.
Sampling Criteria: The selected participants in this study were chosen according to the following criteria:-
Inclusion criteria include:
- Adult females; 20 years old and more
- Had unipolar or bipolar mastectomy since less than 3 months ago
- Cognitive competence to answer the questions
- Accepted to participate in the study

Exclusion criteria include:
- Had reconstructive surgery or wore external breast prosthesis
- Had any other health problem that affecting coping, body image and self-satisfaction.
- Had any psychiatric illness or receiving any psychiatric treatment
- Had mastectomy since more than 3 months
- Had metastasis

Sample size:
The sample size was determined and calculated using EPI info program through using the following formula: $n=(z^2 \times p \times q)/D^2$ after careful review of the related literature and relevant studies which examine the same outcome and found significant differences, the sample size was estimated to be 114 mastectomiesed females at power 80% and coefficient interval 95%. The researchers increased the sample size to be 120 mastectomiesed females to increase the power of the study.

Tools of the study: Five tools were used in this study:
Tool I: Structured interview questionnaire: It was developed by researchers to assess patients' sociodemographic and medical data and was divided into two parts;
Part 1 assessed the patients' characteristics such as age, education, marital status, income, residence and occupation.

Part 2 assessed the patients' medical history such as type of mastectomy, type of surgery, date of mastectomy, stage of disease, family history, and degree of relationship with the previously affected family person.

Tool II: Cancer coping strategies questionnaire: This tool was adopted from Moorey et al (2003) [31] to assess perceived coping strategies used by breast cancer patients. It was in English and has been translated into Arabic by the investigators. This questionnaire composed of 20 questions making up the seven themes: "seeking and using social support", "keeping feelings to self", "positive cognitive restructuring", "wishful thinking", "making changes", "spirituality", and "detachment", with the answer options: 4= always, 3= often, 2= sometimes, and 1= not at all. Therefore, the final score was ranged from 20 to 80 where eighty indicated high coping. Thus, the greater the overall score, the higher the coping.

Total score of Cancer coping strategies questionnaire was classified as follows:
- Poor/worst coping ability (20-29)
- Mild coping ability (30-49)
- Moderate coping ability (50-79)
- Highest coping ability (80)

Tool III: Final Version of The Body Image After Breast Cancer Questionnaire (BIBCQ): This tool was adopted from Baxter et al., (2006) and Goncalves et al., (2014) to assess changes in body image for breast cancer patients regarding individuals' appearance, feelings, and behaviors about any changes that may have resulted from the cancer or its treatment. BIBCQ was consisted of 10 questions divided into two subscales are, appearance dissatisfaction (items 1,3,5,8&9) and sexual functioning dissatisfaction (items 2,4,6,7&10). The subjects answered the questions, based on a 5-points Likert scale. For the first subscale, questions were answered as follows: 1= strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, and 5= strongly agree, the second group of questions was answered as follows: 1= never, 2= infrequently, 3= sometimes, 4= often,5= always. Five BIBCQ items concerned general body image issues: feeling self-conscious, dissatisfied when dressed, difficulty looking at herself naked, avoid others because of appearance, and dissatisfied with body. The other five BIBCQ items concerned body image in relation to the cancer experience: less physically attractive, less feminine, less sexually attractive, body less whole, and dissatisfied with mastectomy scar. Subsequently, the total score varies from 10 to 50 where higher scores represented poorer body image [32&33].
Total score of The Body Image after Breast Cancer Questionnaire (BIBCQ) was classified as follows:
- Poor/worst body image satisfaction (40-50)
- Mild body image satisfaction (30-39)
- Moderate body image satisfaction (20-29)
- Highest body image satisfaction (10-19)

Tool IV: The Rosenberg Self-esteem Scale (RSES): This scale was designed by Rosenberg M. in 1965 to measure global self-worth by measuring both positive and negative feelings about the self. It was in English and has been translated into Arabic by the researchers. This scale is a 4-points Likert scale and was composed of 10 questions, with the answer alternatives are scored ranging from 1 to 4; 4= strongly agree, 3= agree, 2= disagree and 1= strongly disagree. The scale was divided into two groups of statements each group consisted of five questions. Items of the two groups of statements are not formulated in the same direction, so the calculation of the total score will be the sum of the values of items (1,2,4,6 and 7) and the inverted values of items (3,5,8,9 and 10) therefore, the final score was ranged from 10 to 40 where forty indicated better/high self-esteem. Thus, the greater the overall score, the higher the self-esteem [34&35].
Total score of Rosenberg Self-esteem Scale was classified as follows:
- Poor/worst self-esteem (10-19)
- Mild self-esteem (20-29)
- Moderate self-esteem (30-39)
- High self-esteem (40)

Tool V: Self-confidence after mastectomy scale: it was designed by Rosenberg in 1989 to assess perceived self-confidence for adolescents but later on, it has been modified to be used for mastectomy patients. This scale was adopted from Heatherton and Wyland (2003) and Frédéric M., and Fourchard (2013). It was in English and has been translated into Arabic by the investigators. This scale was composed of 10 questions, with the answer alternatives are scored on a 5-points ratings ranging from one to five; 5= strongly agree, 4= agree, 3= Neither agree nor disagree, 2= disagree and 1= strongly disagree. The calculation of the total score was the sum of the values of all items (1,3,4,7 and 10) therefore, the final score was ranged from 10 to 50 where fifty indicated the best/highest self-confidence. Thus, the greater the overall score, the higher the self- confidence [36&37].

Total score of Self-confidence after mastectomy scale was classified as follows:
- Poor/worst self- confidence (10-19)
- Mild self- confidence (20-29)
- Moderate self- confidence (30-49)
- The best/highest self- confidence (50)

Procedure for data collection:
Approvals: An official approval was obtained from the ethical committee of the Faculty of Nursing, Menoufia University, Egypt. A written official approval was obtained from the director of Menoufia University hospital to conduct this study after submitting the proposal, explaining aims and methods of the study. Two written official approval were sent to the director and the head nurse of the Oncology Institute outpatient clinics of Menoufia university hospital for their written administrative permission to start data collection.

Study Period: Collection of data for the current study was done during the period from mid January 2018 to the end of the June 2018.

Ethical consideration: During the initial interview, the purpose of the study was explained to the mastectomy females and a written consent was obtained from the subjects. They were assured that all information would be confidential to assure the confidentiality of them. Subjects were assured that their participation in the study was voluntary and that they could withdraw from the study at any time and can refuse to participate in the study.

Validity of tools: A jury of five experts; three academic staff from the medical surgical Nursing and clinical oncology plus two academic staff from the statistical department reviewed the tools of the study and tested the clarity, feasibility and relevance of tools. The corrections were done accordingly based on their response.

Reliability of the tool: The reliability co-efficient regarding structured survey questionnaire revealed 0.8781. Regarding the Rosenberg Self-esteem Scale (RSES), Cancer coping strategies questionnaire, Final Version of The Body Image after Breast Cancer Questionnaire (BIBCQ) and Self-confidence after mastectomy scale, they all were valid and reliable as they all were adopted. However, researchers repeated the reliability co-efficient regarding the Rosenberg Self-esteem Scale (RSES), the Cronbach's alpha of the tool was showed 0.893 while, for the Cancer coping strategies questionnaire the reliability co-efficient was equal to 0.847. In addition, good reliability was found for The Body Image after Breast Cancer Questionnaire (BIBCQ) ranging from 0.87 to 0.913 while, it was ranging from 0.774 to 0.88 for Self-confidence after mastectomy scale. Hence, the study tools indicated good reliability for conducting the research study.

Pilot study: A pilot study was carried out on 10% of the total number of the study subjects in order to revise tools for clarity, understanding, comprehensiveness, practicability, applicability, feasibility and ease of implementation, detecting the obstacles and problems that may be encountered during data collection. It also helped to estimate the time needed to fill in the study tools. The researchers have excluded the piloted data from the sample size participating in the study.

Informed consent: The consent form was explained to the subjects, the aims and objectives of the study. In addition, subjects were informed that their participation in the study is voluntary therefore, they had the right to choose whether to participate or withdraw from the study at any time, and their decision would not affect their treatment or the services they are offered in the hemodialysis units. Lastly, but not least, before asking any subject to give their written consent, the researchers asked the subjects if they have read the consent form carefully and have understood what the study was bout and what their involvement would entail. Dignity, privacy, and confidentiality were respected for all subjects. All the information given was handled as confidential data, only accessible to the investigator. The study findings were identified by codes not by names.

Data collection procedure: Data collection interviews were scheduled to be conducted in three days per week from 9 am. to 1 pm. The data in the current study were gathered using semi-structured interviews. The interview method was a mutual and interactive communication progress based on a style of asking questions and receiving answers in order to deeply understand what people think about a predetermined subject and about how they feel. The average time spent in data collection with each female was approximately 30 to 40 minutes for filling the whole Data collection tools.

Statistical analysis:

The collected data were coded, organized and tabulated into specially designed formats to be suitable for computer filling. Data analysis was carried out using the Statistical Package for the Social Science (SPSS) Version 22 for Statistical analysis. Descriptive statistics consisted of frequency and percentages were used to analyze subjects' data characteristics and Rosenberg Self-esteem Scale items. While, correlations between total scores of Cancer coping strategies questionnaire, The Body Image after Breast Cancer Questionnaire (BIBCQ), Rosenberg Self-esteem Scale and Self-confidence after mastectomy scale were examined by various tests such as; chi-square, Fisher exact, contingency coefficient, LR test and Chi-square where, significance was adopted at $p<0.05$ and high significance was adopted at $p<0.01$. In addition, frequency and percentages were used to analyze total scores of the four latter tools.

II. Results

Table (1) showed the distribution of studied mastectomiesed females' according to their sociodemographic characteristics. This table showed that in total, 120 women have been included in the current study 51.7% of them were within the age group of 40-49 years. Additionally, (82.5%) of them were of rural origin and 62.5%&56.7% respectively of cases were illiterate and married while, 93.3% of cases were housewives and had no enough income.

Table (2) showed the distribution of mastectomiesed females according to their medical history. This table illustrated that 91.7 % of them had invasive ductal carcinoma and 92.5% of them had breast cancer stage II while, 95.8% of them had undergone modified radical mastectomy and 27.5% had mastectomy since two months. Additionally, concerning the family history of breast cancer it has been noted in 85.8 % of studied patients, with 52.9 % of them were of first degree relatives; mother and sister.

Figure (1) showed the percentage distribution of coping strategies total scores among mastectomiesed Egyptian females. This table clarified that 95% of them had mild coping ability as their scores were ranging in between 30-49. While minority of the studied sample had moderate coping ability as their scores were ranging in between 50-79.

Figure (2) showed the percentage distribution of body image satisfaction total scores among the studied mastectomiesed Egyptian females. This table demonstrated that 26.7 % of them had mild satisfaction with body image moreover, 17.5 % of them had moderate satisfaction with body image and 55.8% of them had poor satisfaction with their body image.

Figure (3) showed the percentage distribution of self-esteem total scores among the mastectomiesed Egyptian females that, illustrated that 54.2% of them had Poor/worst self-esteem as their scores below 20 points on the other hand, 45.8% of them had moderate self-esteem as their scores between 30 and 39 points.

Figure (4) showed the percentage distribution of self-confidence total scores among the mastectomiesed Egyptian females. This table illustrated that 21.7 % of them had mild self-confidence and 78.3% of them had poor self-confidence.

Table (3) clarified the relationship between the mastectomiesed Egyptian females' sociodemographic characteristics and their coping total scores. This table concluded that statistical significances were observed regarding patients' age, marital status and education in relation to their coping total scores as P values were 0.002, 0.001& 0.001 respectively. While, no statistical significance was observed regarding residence, occupation, and income in relation to their coping total scores as the P values were found to be greater than 0.05.

Table (4) showed the relationship between mastectomiesed Egyptian females' sociodemographic data and their body image satisfaction total scores. This table clarified that there were no statistical significant differences were observed between all patients' sociodemographic data in relation to their body image satisfaction total scores. As p-values were found to be greater than 0.05, which means that there was no statistical significant effect for the overall patients' sociodemographic characteristics on their satisfaction with their body image (P =0.95, P= 0.73, P=0. 0.75, P=0.90, P=0.90) respectively.

Table (5) illustrated the relationship between mastectomiesed Egyptian females' sociodemographic data and their self-esteem total scores. This table concluded that statistical significance was observed regarding patients' age and residence in relation to their self-esteem total scores as P values were 0.000&0.03 respectively with no statistical significant differences were observed regarding education, occupation, and income in relation to their self-esteem total scores as the p-values were found to be greater than 0.05.

Table (6) illustrated the relationship between mastectomiesed Egyptian females' sociodemographic data and their self-confidence total scores. This table demonstrated that there were high statistical significant differences observed between almost all patients' sociodemographic data; age, education, occupation, and income in relation to their self-confidence total scores. Where p value was 0.000 for all items of sociodemographic data which indicating that there is a great effect for mastectomiesed females' sociodemographic characteristics and their self-confidence except for residence as the Fisher test result was 0.56 which means that patients' residence has no effect on their self-confidence.

Table 1: Sociodemographic characteristics of studied mastectomy females (N=120)

Sociodemographic characters	Frequency	Percent
Age: 30-39 years	18	15.0
40 -49 years	40	51.7
50 --60 years	62	33.3
Residence: Rural	99	82.5
Urban	21	17.5
Marital status: Married	68	56.7
Divorced	26	21.6
Single	6	5.0
Widowed	20	16.7
Level of education: Illiterate	75	62.5
Primary	12	10
Secondary	24	20
University	9	7.5
Occupation: Employee	8	6.7
Housewife	112	93.3
Income: Enough	8	6.7
Not enough	112	93.3
Total	**120**	**100**

Table2: Medical data of studied mastectomiesed females (N=120)

Medical data	Frequency No.	Percent %
Type of breast cancer		
• Invasive ductal carcinoma	**110**	**91.7**
• Invasive lobular carcinoma	**10**	**8.3**
Stages:	**9**	**7.5**
• Stage I		
• Stage II	**111**	**92.5**
Types of surgery:		
• Simple or total mastectomy	**5**	**4.17**
• Modified radical mastectomy	**115**	**95.83**
Date of Mastectomy:		
• Since one month	**6**	**5**
• Since two months	**87**	**72.5**
• Since three month	**27**	**22.5**
Family history of breast cancer:		
• Yes	**103**	**85.8**
• No	**17**	**14.2**
If yes: degree of relation (N=17)		
• First degree	**9**	**52.9**
• Second degree	**7**	**41.2**
• Third degree	**1**	**5.9**
Total	**120**	**100**

Figure 1: Percentage distribution of coping strategies total scores among studied mastectomiesed females
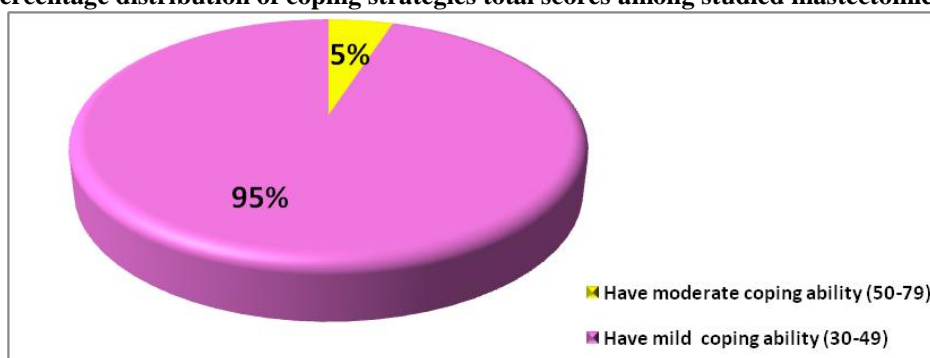
Figure 2: Percentage distribution of body Image satisfaction total scores among studied mastectomiesed females
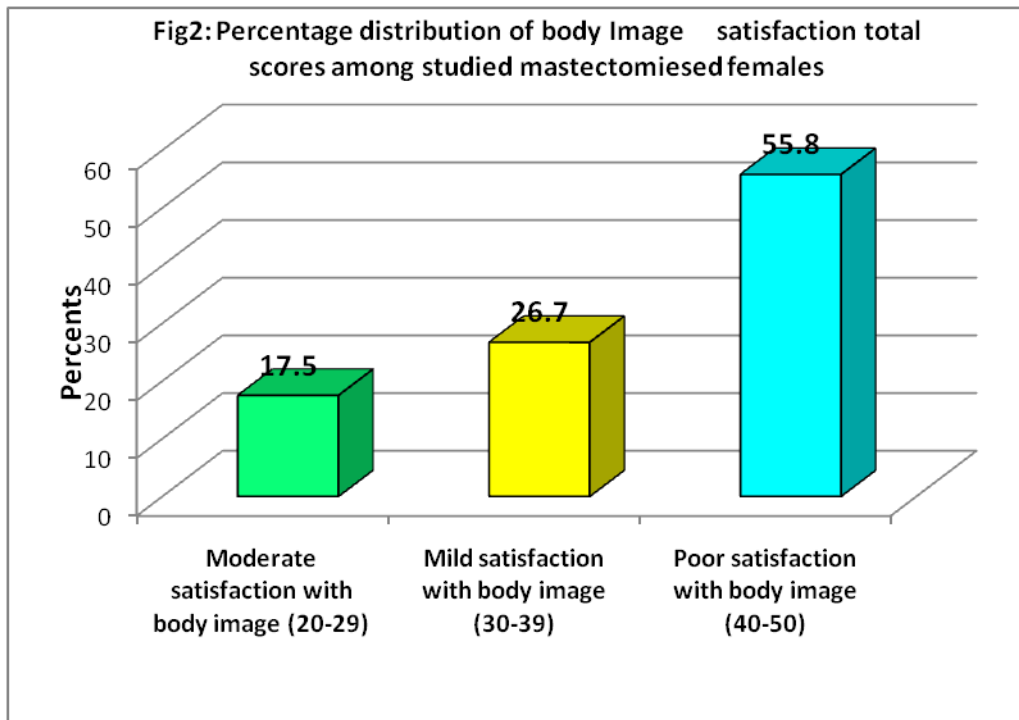

Figure 3: Percentage distribution of self-esteem total scores among studied mastectomiesed females
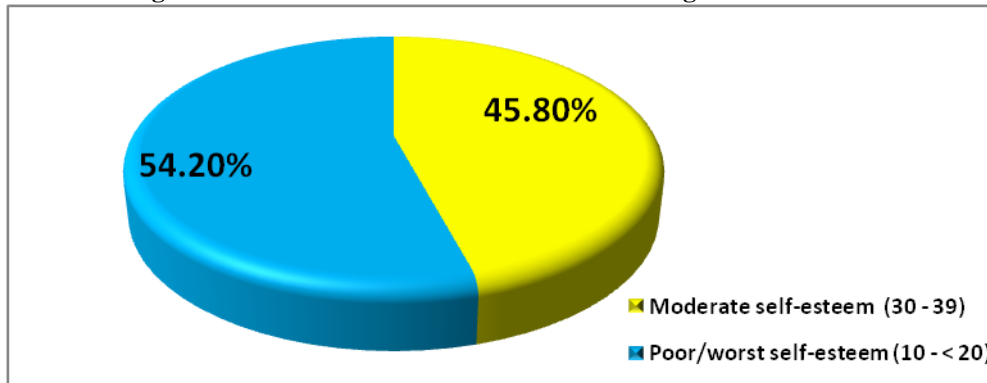

Figure 4: Percentage distribution of self-confidence total scores among studied mastectomiesed females
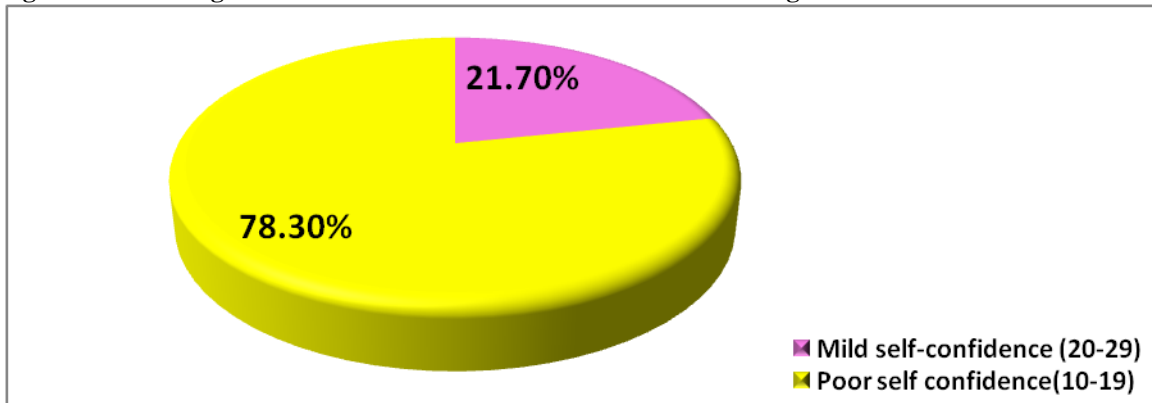
Table3: Relationship between studied mastectomiesed females' sociodemographic data and their coping strategies total scores

Sociodemographic data		Total scores of coping strategies				Total		P value
		Moderate coping ability N0. %		Mild coping ability N0 %		N0. %		
Age groups	30-39 years	4	22.2	14	77.8	18	100	LR=12.7, P =0.002 Sig.
	40 -49 years	2	5	38	95	40	100	
	50 --60 years	0	0	62	100	62	100	
Residence	Rural	5	5.1	94	94.9	99	100	Fisher = 1.0 NS
	Urban	1	4.8	20	95.2	21	100	
Marital status:	Married	12	17.6	56	82.4	68	100	LR=13.4, P =0.002 Sig.
	Divorced	6	23.1	20	76.9	26	100	
	Single	1	16.6	5	83.4	6	100	
	Widowed	4	20.0	16	80.0	20	100	
Education	Illiterate	0	0	75	100	75	100	LR=16.2, P=0.001 Sig.
	Primary	1	8.3	11	91.7	12	100	
	Secondary	5	20.8	19	79.2	24	100	
	University	0	0	9	100	9	100	
Occupation	Employee	0	0	8	100	8	100	Fisher = 1.0 NS
	Housewives	6	5.4	106	94.6	112	100	
Income	Enough	0	0	8	100	8	100	Fisher = 1.0 NS
	Not enough	6	5.4	106	94.6	112	100	
Total		65	54.2	55	45.8	120	100	

Sig.= significant   NS= not significant   LR= likelihood ratio

Table4: Relationship between studied mastectomiesed females' sociodemographic data and their body image satisfaction total scores

Sociodemographic data		Groups of body image						Total		P value
		Mild satisfaction with body image N0. %		Poor satisfaction with body image N0. %		Moderate satisfaction with body image N0. %		N0. %		
Age groups	30-39 years	5	27.8	11	61.1	2	11.1	18	100	LR=0.74, P =0.95 NS.
	40 -49 years	11	27.5	22	55	7	17.5	40	100	
	50 --60 years	16	25.8	34	54.8	12	19.4	62	100	
Marital status	Married	15	33.3	19	42.3	11	24.4	45	100	LR=0.69, P =0.83 NS.
	Divorced	7	21.9	23	71.9	2	6.2	32	100	
	Single	4	20.0	11	55.0	5	25.0	20	100	
	Widowed	6	26.1	14	60.9	3	13.0	23	100	
Residence	Rural	25	25.2	56	56.6	18	18.2	99	100	LR = 0.61, P=0.73 NS
	Urban	7	33.3	11	52.4	3	14.3	21	100	
Education	Illiterate	21	28	40	53.3	14	18.7	75	100	LR=3.4, P=0.75 NS
	Primary	1	8.3	9	75	2	16.7	12	100	
	Secondary	7	29.2	13	54.2	4	16.7	24	100	
	University	3	33.3	5	55.6	1	11.1	9	100	
Occupation	Employee	2	25	5	62.5	1	12.5	8	100	LR=0.21, P=0.90 NS
	Housewife	30	26.7	62	55.4	20	17.9	112	100	
Income	Enough	2	25	5	62.5	1	12.5	8	100	LR=0.21,P=0.90 NS
	Not enough	30	26.7	62	55.4	20	17.9	112	100	
Total		32	26.7	67	55.8	21	17.5	120	100	

NS= not significant   LR= likelihood ratio

Table 5: Relationship between studied mastectomiesed females' sociodemographic data and their self-esteem total scores.

Sociodemographic data		Groups of Rosenberg self- esteem				Total		P value
		poor self-esteem N0.	%	Moderate self-esteem N0.	%	N0.	%	
Age groups	30-39 years	3	16.7	15	83.3	18	100	X²= 24.5, P =0.000 HS
	40-49 years	33	82.5	7	17.5	40	100	
	50-60 years	29	46.8	33	53.2	62	100	
Marital status:	Married	17	44.7	21	55.3	38	100	LR=6.4, P=0. 43 NS
	Divorced	13	59.1	9	40.9	22	100	
	Single	14	56.0	11	44.0	25	100	
	Widowed	21	60.0	14	40.0	35	100	
Residence	Rural	58	58.6	41	41.4	99	100	X²= 4.5, P=0.03 Sig.
	Urban	7	33.3	14	66.7	21	100	
Education	Illiterate	39	52	36	48	75	100	LR=4.1, P=0.24NS
	Primary	9	75	3	25	12	100	
	Secondary	14	58.3	10	41.7	24	100	
	University	3	33.3	6	66.7	9	100	
Occupation	Employee	3	37.5	5	62.5	8	100	Fisher = 0.46 NS
	Housewife	62	55.4	50	44.6	112	100	
Income	Enough	3	37.5	5	62.5	8	100	Fisher = 0.46 NS
	Not enough	62	55.4	50	44.6	112	100	
Total		**65**	**54.2**	**55**	**45.8**	**120**	**100**	

HS=highly significant   NS= not significant   LR= likelihood ratio

Table 6: Relationship between studied mastectomiesed females' sociodemographic data and their self-confidence total scores

Sociodemographic data		Groups of self-confidence				Total		P value
		Mild self-confidence N0.	%	poor self-confidence N0.	%	N0.	%	
Age groups	30-39 years	10	55.6	8	44.4	18	100	LR=18.9, P =0.000 HS.
	40 -49 years	11	27.5	29	72.5	40	100	
	50 --60 years	5	8.1	57	91.9	62	100	
Marital status:	Married	17	44.7	21	55.3	38	100	LR=6.4, P=0.43 NS
	Divorced	13	59.1	9	40.9	22	100	
	Single	14	56.0	11	44.0	25	100	
	Widowed	21	60.0	14	40.0	35	100	
Residence	Rural	23	23.2	76	76.8	99	100	Fisher = 0.56 NS
	Urban	3	14.3	18	85.7	21	100	
Education	Illiterate	8	10.7	67	89.3	75	100	LR=42.7, P=0.000HS.
	Primary	0	0	12	100	12	100	
	Secondary	9	37.5	15	62.5	24	100	
	University	9	100	0	0	9	100	
Occupation	Employee	8	100	0	0	8	100	Fisher = 0.000 HS
	Housewife	18	16.1	94	83.9	112	100	
Income	Enough	8	100	0	0	8	100	Fisher = 0.000 HS
	Not enough	18	16.1	94	83.9	112	100	
Total		**26**	**21.7**	**94**	**78.3**	**120**	**100**	

HS=highly significant   NS= not significant   LR= likelihood ratio

III. Discussion:

For women of all ages, a mastectomy can have major consequences on both physical and emotional aspects of their life. It can affect their body image and self-satisfaction and if they complicated with poor coping then the patient's intimate, family and social life all are affected. Thus, the mastectomiesed women need a multi-disciplinary treatment of breast cancer [18].

As regards to the patients' sociodemographic characteristics the current study findings showed that of the mastectomiesed females' included in this study more than half of them were within the age group of 40 to 49 years, married and illiterates while, the majority of them were of rural origin, housewives and had no enough income.

This finding is consistent with [38] who studied "Body Image of Women with Breast Cancer after Mastectomy and observed that the mean age for mastectomy was 48 years, and the majority of the studied women were within the age group (41-50) years of age, housewives from rural regions of Turkey with little education. Thus, confirming the predominant age range for the incidence of breast cancer, which goes up to 50 years of age". also, it was in congruence with the results of [39] who "revealed that the ages of most of his studied sample ranged from 40 to 50 years also, this finding is in line with [40], who reported that "the highest peak age of breast cancer was ranged between 45 to less than 55 years of old".

In addition, this study agreed with [41] who concluded that "breast cancer is the most common cancer among women with an age adjusting rate of 49.6 years". This result also, was in agreement with another study done by [18] who considered that "breast Cancer to be rare prior to the age of 35". Similarly, [7] who reported that "Egyptian females have a younger age distribution; thus have a lower survival rate than older women due to cancer being in advanced stages of diagnosis and their median age is 46 years; one decade younger than the corresponding age in Western countries. Among Egyptian patients, 60.5% are premenopausal. The female to male ratio is 44:1". This correspondence can be attributed to the hormonal changes, as this age era is the bearing period, which usually associated with multiple hormonal changes.

In relation to residence, the present study results were consistent with [42] they stated, "More than half of their both study groups were lived in rural areas" and [43] who affirmed this study results and elucidated that "the majority of females in their study were from rural areas". This could be owed to that; women from rural areas have lack of knowledge where women do not know how to perform breast self-examination for discovering any abnormality early.

With reference to marital status, more than half of the current study sample were married which is in accordance with [43&44] who clarified that "the highest percentage of the breast cancer women were married and housewives while the latter ascertained that the majority of his studied sample of breast cancer women was not working". This can be declared as; employee women are able to have an active part in seeking information and decision making about treatment and gain more social support than those who passively submit to medical recommendation and because of the large percentage of illiteracy among the current study subjects.

Moreover, regarding the studied mastectomiesed females' medical history, the current study results affirmed that the majority of them had invasive ductal carcinoma, had breast cancer stage II and had undergone modified radical mastectomy since two months. Additionally, concerning family history of breast cancer, majority of them had family history of breast cancer with more than half of them were of first degree relatives (mother and sister). These findings were in accordance with [45] who stated, "A relatively high percentage occurring for less than two thirds of the study sample had a positive history of breast cancer" and [46] who pointed that, "A strong family history of breast cancer is always associated with an increased use of adjuvant therapy in mastectomy patients. Although a strong family history does not seem to affect survival in general, it may impair survival of very young females and those treated without adjuvant chemotherapy". This similarity may be due to the high percentage of illiteracy among the studied sample so; they didn't care of searching in their families' medical history.

Answering the first research question, what is the effect of mastectomy on patient's coping strategies, body image and self-satisfaction? The current study findings indicated that regarding coping strategies the majority of the studied mastectomiesed females had mild coping ability, while minority of them had moderate coping ability without identifying any poor or high coping scores. Which may be clarified by the selection criteria of the present study; selected only the newly mastectomiesed females of less than three months post surgery thus, they still unable to cope well with their reality.

The current study findings were similar to [47] who "demonstrated that increased coping was related to lower levels of negative emotions and increased health self-efficacy and functional well-being". Moreover, these findings were also parallel to that of [48] who "conducted a randomized controlled trial on group psychotherapy for women with early breast cancer reported, that women who received group therapy experienced decreased anxiety, improved family functioning, greater satisfaction with therapy, increased coping, self-growth, and knowledge pertaining to cancer in comparison to the control group".

Furthermore, as regard to body image satisfaction, the current study revealed that more than half of the studied mastectomy females had poor satisfaction with their body image while, less than one third of them had mild satisfaction with body image. This study results were consistent with the study of [49] who "confirmed that reduction in body image satisfaction and the concerns of women with breast cancer about their body image" and [50] who "suggested that mastectomy as a surgical treatment for breast cancer may negatively affect a woman's body image and her self-image". In addition, this finding was in line with [51] who "simplified that 62% of his study sample had poor body image". Besides [52] confirming the current study findings and stated, "Mastectomies had a negative impact on women's body image". Moreover, [53] "stated that all of the women used negative assessments related to their appearances (ugly, missing, weird). These statements show that women experience negative emotions due to the physical changes resulting from the operation".

Likewise, numerous studies related to this concern have proved these findings such as, [54] "reported that women regarded their appearance as deformed, irregular, non-proportional, and ugly after mastectomy that is consistent with the way in which this surgery can change women's feelings about themselves, comfort with social interactions, and willingness to engage in physical intimacy". Additionally, [55] who "stated that, most of those women were inclined to wear loose fitting clothing, and they tried to cover their surgical incisions. This negative response is the woman's attempt to hide the loss of a breast from her social environment. Women who experience a negative body image after the loss of a breast often try to change their dressing style in order to deal with their unhappiness and discomfort". On contrary the findings of [56] were contradicting to the current study results who concluded that, "the majority of his study subjects turned out to have a modest body image, and in only few cases, the body image turned out to be weak". This discrepancy may be attributed to the differences in patients' cultural and sociodemographic characteristics and to the methodological variations however, we may not consider the latter study results because it is only one contradicting an enormous number of affirming results.

Furthermore, concerning self-satisfaction the existing study findings concluded that more than half of the studied mastectomiesed females had poor/worst self-esteem and less than half of them had moderate self-esteem. The existing study findings were constant with [57] who stated, "more than half of the studied females had low self-esteem" and [58] who concluded that "females had lower self-esteem scores". In the same line [59] found that breast cancer and its treatments including mastectomy negatively affected body esteem". Furthermore, the results of the present study were in accordance with [60] who "concluded that self-esteem was worse in females who underwent mastectomy, as they are more emotionally fragile". This resemblance may be explained by the utmost negative effect of mastectomy on patients' self-esteem.

Likewise, as regards to self-confidence among the studied mastectomy females the present study pointed up that more than three quarters of them had poor self-confidence and less than one quarter had mild self-confidence. The current study findings were in steadiness with several studies [41,61&62] they, "demonstrated that majority of their studied post-mastectomy females had poorer self-confidence rates while the latter confirmed that mastectomy have a negative effects on both patient's self-confidence and self-esteem". This resemblance may be related to the fact that self-confidence is a part of the patient's self-satisfaction, which is disturbed by dissatisfaction of body image and self-esteem consequently; it is affected easily if any of the two attached concepts declined.

Answering the second research question, Is there any statistical relationship between patients' sociodemographic characteristics in relation to their coping strategies, body image and self-satisfaction? The current study demonstrated that statistical significance was observed between mastectomiesed females' age, marital status and education regarding their coping total scores as P values were 0.002, 0.001 respectively. In addition, no statistical significant differences were observed regarding residence, occupation, and income in relation to their coping total scores as the p-values were found to be greater than 0.05. These findings were in line with [63] who "reported that married women were the majority of his clients and more likely to cope compared with divorced or widowed" and [64] who "illustrated that sociodemographic and family can support females with breast cancer and help them express their emotions". Moreover, [47] supported the findings of this study who "stressed that coping strategies involving purely cognitive activities that do not directly alter the actual relationship with the environment but do alter the way this relationship is recognized".

Furthermore, these findings were consistent with several studies on the same issue [59&64], which demonstrated, "The majority of strategies used by women to cope with breast cancer were being positive. Likewise, breast cancer women accept their disease because the surroundings help them accepting the reality of this stressful situation, learning to live with it, accepting its implications and its irreversible course". This result is consistent with the study done by [51] who "found that females with breast cancer often used coping strategies along with positive reframing for themselves as heroes, rather than victims, of their disease". These similarities make it clear that Egyptian mastectomiesed women tend not to blame themselves for the disease or think that it is their solitary responsibility to be able to address the problem and go through the cancer experience.

Moreover, the present study clarified that there were no statistical significant differences observed regarding all patients' sociodemographic data in relation to their body image satisfaction total scores where, p-values were found to be greater than 0.05, which indicates no statistical significant effect for the overall patients' sociodemographic characteristics on their satisfaction with body image. These results were contradicting with [56] who said, "Patients' feelings of satisfaction with body image differed with their age, occupation, income and living place". This divergence may be due to differences in sociodemographic characteristics of the subjects of both studies.

Similarly, This study concluded that statistical significance was observed regarding mastectomiesed females' age and residence in relation to their self-esteem total scores with no significant differences were observed regarding all the other sociodemographic data as p-values were found to be greater than 0.05. This can be explained that younger ages always have higher self-esteem as they are able to plan for what is necessary to get throughout their cancer experience and to adapt to their life after cancer. This finding is in line with [60] who "stated that the powerlessness and lack of control that the cancer experience often engenders may also have promoted a stronger sense of self-esteem later on after coping with it". Correspondingly, [59&62] confirmed the existing study results as they stated, "Mastectomy caused a negative psychological impact on their studied patients, which included fear from cancer, feeling of body incompleteness, inconvenience in working and social communication, less sexual act and low spirit which consequently results in loss of their self-worth".

In addition, the current study results demonstrated that there were high statistical significant differences observed regarding almost all patients' sociodemographic data (age, education, occupation and income) in relation to self-confidence after mastectomy scale total scores where p value was (0.000) for all of them. What is to say; that there is a great effect for patients' sociodemographic characteristics on their self-confidence except for residence and marital status as the p-value was greater than 0.05, which indicates no significance. These findings were congruent with [61] they concluded, "Education facilitates easy interaction, acceptance, and understanding mastectomiesed females' real situation which enhance self efficacy by gaining knowledge to learn how to cope". In addition, [62] supported this finding and reported, "The educational level is considered a personal resource that influences the individual's self-efficacy". In addition, they were in accordance with the study done by [65] who stated," Income and educational level guards a woman with breast cancer from negative thoughts and feelings, thereby fostering feelings of hope for a positive health outcome thus enhancing their self-efficacy and self-appraisal".

These findings are conflicting the results of [64] they clarified, "The mastectomy treatment and side effects have an impact on psychosocial and physical functioning. The breast cancer females must find ways to cope with fear, anxiety, and depression related to breast cancer. Coping with these changes and threats consequently enhanced well-being which is resulted in greater satisfaction with their body and self". Likewise, the results of [66] were opposing to this study results as "they observed statistical significance between all psychosocial and physical aspects among breast cancer women". This dissimilarity may be due to differences in patients' cultural and demographic characteristics and to the methodological variation.

IV. Conclusions
Based on the results of this study it was concluded that:

Mastectomy has negatively affected the mastectomiesed Egyptian females coping strategies and consequently resulted in, decreased satisfaction with their body and self and this illuminated clearly as the majority of the studied females had mild coping and Poor self- confidence while, more than half of them had poor satisfaction with their body image and self-esteem. Moreover, statistical significance was observed regarding patients' sociodemographic characteristics in relation to total scores of coping strategies questionnaire, self-esteem and self-confidence scales while no significance was observed for body image.

V. Recommendations
- Psychological management for mastectomiesed females should be started side by side with medical and surgical treatments.
- An assertive Psycho-oncology training program should be given to the mastectomiesed females and their families to enhance their coping strategies and consequently enhance their satisfaction with self and body.
- Psychological nursing intervention should be integrated as a part of the daily routine nursing care for the management of cancer patient.
- Encourage governmental policy makers and other decision makers in Menoufia University Hospital for establishing a psycho-oncology unit, which is becoming mandatory in the oncology community consisting of medical and nursing staff with no need for patient's referrals to any other distinct places.
- Replication of this study is needed with inclusion of the females' partners and their families with a larger probability sample to allow generalization of the study results.

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