

RESEARCH ARTICLE

Body image and its relationship to marital adjustment for a sample of married women after mastectomy

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ABSTRACT

Women's suffering after mastectomy presents physical and psychological challenges that require strength and resilience. Women who undergo breast removal, whether for breast cancer or other reasons, experience painful physical effects and changes in self-image. They face physical healing challenges, such as pain and swelling, but the psychological aspect is even more challenging. The study aimed to identify the relationship between body image and marital adjustment for a sample of married women with breast mastectomy. The study sample consisted of 130 married women with breast mastectomy and ranged between 28 and 60 years old. The researcher used two scales, one for body image and the other for marital adjustment. After assuring their psychometric properties, they were applied to the study sample. The results showed a statistically significant positive correlation between body image and marital adjustment. Furthermore, the results showed that there were statistically significant differences between the arithmetic means of body image and marital adjustment in favor of married women with breast mastectomy two years ago. In light of the results reached, the study recommended several recommendations, perhaps the most prominent of which are to work on breast self-examination since early detection of breast cancer doubles the chances of recovery. Supporting the psychological needs of mastectomies, such as the need for security, love, and self-esteem, and establishing psychological counseling centers in various parts of the Hashemite Kingdom of Jordan to provide all psychological counseling and guidance services for mastectomies.

Keywords: body image; marital adjustment; mastectomy; married women

1. Introduction

Breast cancer is a life-altering diagnosis that affects millions of women worldwide. The physical and emotional toll it takes is immense, and one of the significant challenges faced by women with breast cancer is the impact on their body image. Body image refers to how individuals perceive and feel about their physical appearance, and it plays a crucial role in self-esteem and overall well-being. For women with breast cancer, the disease and its treatments can result in significant changes to their bodies. Surgical procedures such as mastectomy or lumpectomy may alter the appearance of the breasts, while chemotherapy and

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radiation can lead to hair loss and changes in skin complexion.

These physical changes can cause women to feel disconnected from their bodies and may lead to a negative body image. Moreover, breast cancer treatments often result in weight gain or loss, which can further affect how women perceive themselves^[1].

The fear of not being attractive or desirable due to these changes can create feelings of insecurity and self-doubt. Additionally, social expectations and media portrayals of beauty can exacerbate the negative feelings, leaving women with breast cancer feeling isolated and alone. It is crucial to recognize that body image concerns are not superficial or trivial; they deeply affect a woman's mental and emotional well-being. Addressing and supporting women through these challenges is essential for their overall adjustment and quality of life. In the next section, we will explore the intricate relationship between body image and marital adjustment for women with breast cancer^[2].

Preoccupation and anxiety about physical appearance are common among females, as this is due to the social outlook and its emphasis on physical attractiveness as a criterion for accepting others, and the exaggerated emphasis by society on physical appearance and physical fitness may lead to the formation of a negative body image^[3].

Body image is a multidimensional concept that includes self-assessment of the body and trends towards physical appearance, and body image in terms of satisfaction or dissatisfaction plays a huge role in the psychological lives of individuals^[4].

In this context, Allen and Unwing^[5] pointed out that body image plays an important role in the extent to which an individual enjoys mental health; negative body image affects the social and physical efficiency of an individual and is associated with some symptoms of anxiety and depression, low self-esteem, poor physical health, feelings of helplessness, alienation, and some unhealthy behaviors; and positive body image helps individuals to see themselves attractive and helps the normal development of personality. Individuals who love themselves and think of themselves positively are likely to be more reassured than others^[1,6].

National Breast Cancer Center^[7] pointed out that living with cancer causes the appearance of stress that has a severe psychological impact, including body image disorder, sexual problems, difficulties in the marital relationship, fear, anxiety related to survival, fear of cancer returning, and that most cancer patients show mild or fluctuating symptoms of anxiety and depression, and post-traumatic stress disorder, and these disorders need special treatment and family support, especially the husband, the deformation resulting from mastectomy surgery can have a significant impact on the patient's self-image, as well as sexual difficulties that appear after mastectomy, and the associated anxiety they have about their bodies^[8].

Marital adjustment refers to the process through which couples adapt to changes and challenges within their relationship. For women with breast cancer, body image concerns can significantly impact their marital adjustment. A negative body image can lead to feelings of self-consciousness and reduced self-esteem, which may spill over into the marital relationship. Intimacy is an essential aspect of any marriage, and breast cancer-related body image issues can affect a woman's ability to feel comfortable and confident in her own skin. The fear of rejection or the belief that their partners find them less attractive due to physical changes can create barriers to intimacy and closeness. This strain on the marital relationship can lead to decreased satisfaction and communication difficulties. It is essential to note that not all women will experience these challenges in the same way. Some may find support and understanding from their partners, while others may face additional difficulties. In the following sections, we will explore the factors that influence body image and marital adjustment for women with breast cancer and discuss strategies for managing these concerns within the context of a marital relationship^[9,10].

2. Theoretical foundation

2.1. Body image

Cash et al.^[4] and Chuang et al.^[11] explained that body image is a multidimensional phenomenon that not only includes multiple physical characteristics, such as weight, facial features, and coordination, but also includes emotional and cognitive experiences and experiences of the individual's body.

Kowalczyk et al.^[12] believes that body image disorder is a form of mental disorder in which dissatisfaction with physical appearance is the main defining characteristic, and this physical disorder was recently included in the DSM-III-R.

Lee and Yoon^[13] points out that any individual establish a positive body image when they realize the shape of the body in a clear realistic and real way, when they accept their body and know that objects look in several shapes and sizes, when they know that the body say little about personality and about the value of the individual as a human, and positive body image is associated with high self-esteem and self-confidence.

An individual may possess a negative body image when they realize the size and shape of the body in a distorted way, the opposite of what it really is, when they feel ashamed and worried about their body, when they feel that the size and shape of the body entail respect or disrespect, and negative body image is associated with self-esteem Depression, eating disorders. Furthermore, body image concerns may also result in increased emotional distress, anxiety, and depression, all of which can impact a woman's ability to connect with her partner. The emotional toll of breast cancer can be overwhelming, and the added burden of body image concerns can further strain the marital relationship^[14].

2.2. Explanatory theories of body image

The cognitive model of body image:

Brandão et al.^[15] explained that the cognitive model of body image indicates the instability of the body image structure, where the assessment of the current body size can be due to negative emotion or stress. For example, a negative mood increases the assessment of body size in women suffering from bulimia (binge eating), making the body image worse and worse.

2.3. Developmental and sociocultural theories of body image

Ibrar et al.^[16] sees that developmental, social, and cultural theories explain how body image grows and develops, and that understanding these theories helps to understand why negative body image is repeated in obese people. Developmental theories have focused on the importance of childhood and adolescence as important periods during which body image grows and develops and that there are factors such as puberty time that contribute to the growth of body image. Cultural and social theories aim to hold social comparison and social cultural means regarding the body, external appearance, and beauty as important factors in the growth and development of body image.

2.4. Marital adjustment

Bal and Robbins^[17] consider marital adjustment as the result of many factors, including psychological readiness, emotional maturity, and satisfaction of social needs that lead to the success of the marital relationship, which is the degree of feeling of intellectual and emotional communication with the other party in the marital relationship, in order to achieve consensual methods that help them cope with the demands of marriage, overcome the obstacles in their lives, and achieve a reasonable amount of happiness and satisfaction.

2.5. Manifestations of marital adjustment

Ganesh et al.^[18] explained that marital adjustment has many manifestations, including humility and cooperation between spouses in performing roles, feeling happy and satisfied with life, psychological comfort, and acceptable social behavior. Children's sense of psychological security. The appearance of support from the other party and the family contributes to solving problems relatively easily. Sexual gratification and economic cooperation. Success and efficiency in work, as the marital adjustment of an individual may increase the stability of the working individual in his work. Each of the spouses has his own demands and goals, which means the agreement of behaviors with expectations, as well as harmony, the ability to solve problems and provide assistance to each other, successful (non-verbal) communication, and the emergence of mutual love between them.

2.6. Some psychological theories explaining marital adjustment:

2.6.1. Behavioral therapy

Behaviorists interpret marital interaction as an important requirement for the occurrence of marital adjustment through reward and punishment; as the individual's proof of a behavior often supports and strengthens him to reappear, when the couple interacts and strengthens one another, it motivates him, and this increases the closeness and marital adjustment between them, unlike if the other punishes or deprives him of reward, it makes him feel uncomfortable and poorly compatible between them^[19].

2.6.2. Rogers' self-theory

Rogers was interested in the self, hence he considered adjustment and in adjustment in the light of his self-vision, and the self-concept of a couple is influenced by the infertile state of the couple or their ability to procreate; the child-bearing family is higher than the childless family in their concept and self-esteem, as the husband's self-esteem increases if he has a son, which increases the chance of having and increases marital adjustment between them^[20].

Rogers focused on the occurrence of adjustment between the two systems: "organism and self", if the individual is able to reconcile them, he is well compatible, but if the relationship between the individual and himself is disturbed, he is poorly compatible. When the individual increases his self-esteem, his marital adjustment increases, and the husband's self-concept is influenced by some factors, including his ability to procreate and the methods of marital treatment between him and the other spouse, and these things help in the existence and increase marital adjustment in the couple^[21].

2.6.3. Social exchange theory social exchange theory

This theory is concerned with what can be called the "psychological profit theory", Homans presented this theory to show how social interaction occurs, and in it he supports the meaning given by learning scientists and behaviorists, since proving behavior supports and strengthens it and not proving weakens it, but Homans stipulated in the reward that it should be of psychological value to the persistent individual in order to feel the Based on this, the closeness of the spouses to each other increases and their love for each other increases, but when a couple feels the psychological gain from their marriage, they adjust their feelings and behaviors so that they get closer to the feelings, thoughts, and behaviors of the other party, and thus the positive interaction between them continues, which leads to increased marital adjustment. One of the basic concepts in this theory is the concept of return and cost. The cost includes the effort that an individual makes to reach his desire, but the return is the result of this cost, and this return may be desirable (reward) or undesirable (punishment). Therefore, any individual has certain goals that he seeks to achieve through going through certain experiences, and in that return, unlike if the return is undesirable, it will avoid such behavior and that cost again in order to avoid such a return^[18].

2.6.4. The theory of psycho spiritual profit

This theory is based on a religious basis; psychological and spiritual profit is an individual's feeling of psychological satisfaction in a work that satisfies people in order to please the Almighty and take the reward from God, and it is based on four postulates: satisfying the need for religion pushes the individual to do a work that satisfies the Almighty, and the individual receiving a reward from the Almighty enhances his behavior in the rest of the worship. And the individual's charity to his brother is one of the acts of worship that he reinforces^[22].

The researchers believe that the psychoanalytic school represented by Freud saw that adjustment between spouses is represented by the state of balance between the components of personality and the ability of the ego to satisfy the requirements of identity in an acceptable way, i.e., through straight marriage, and there is no doubt that the individual's sexual satisfaction through straight marriage supports marital adjustment. Behaviorists interpret marital adjustment in light of the learning process and where the husband finds evidence of his behavior towards the other party, but if the appropriate behavior of the husband is not reinforced by the other party, this is a harbinger of marital incompatibility.

As for the theory of the self, it looked at marital adjustment in the light of the husband's consistency with his self-concept, and through the experiences he goes through, the presence of a positive self-concept for the husband helps him deal with the other husband effectively, which increases the opportunity for rapprochement and marital adjustment between them. As for the theory of social exchange, it focuses on the need for the husband to promote the desired behavior of the other party, and this strengthens the relationship between the spouses^[23].

The theory of spiritual psychological profit has also added a spiritual dimension to the marital relationship, where the husband meets the behavior of the other party to the satisfaction of the sire, to which he meets with charity in order to seek reward from the sire. However, we cannot limit ourselves to one point of view in its interpretation of marital adjustment, but it is necessary to integrate these views. Although the theory of psychological and spiritual profit is closer to the reality that we live in an Islamic society, the motives according to this theory include religious and worldly, but the husband must condone some of the other party's lapses in order for things to go, considering that this is the desire of Allah's pleasure, and when the other husband knows this, he hastens good behavior until he wins the reward from Allah and is not unique to one party without the other^[24].

2.7. Previous studies

Figueiredo^[25] conducted a study aimed at identifying the body image of a sample of breast patients who underwent mastectomy surgery. The study sample consisted of 563 patients aged 67 years and over. The researchers used a body image scale. The results of the study showed a severe disturbance in body image immediately after surgical intervention in women who had undergone total mastectomy surgery.

Qashqash^[26] conducted a study aimed at identifying body image and its relationship to marital adjustment. The study sample consisted of 50 patients undergoing mastectomy. The researcher used a body image scale and a marital adjustment scale. The results of the study showed that marital adjustment does not differ according to body image, as well as that both body image and marital adjustment do not differ according to demographic variables (age, level of education, type of treatment, and number of years of resection).

Chung et al.^[27] carried out a study aimed at identifying marital adjustment in breast cancer patients before and after treatment. The study sample consisted of 119 married women who underwent mastectomy surgery. The researchers used a marital adjustment scale. The results of the study showed that there were no

differences in marital adjustment between married women who underwent mastectomy surgery before and after mastectomy.

Oliveiraorcid et al.^[28] sought to find out the body image of women having mastectomies. The study sample consisted of 103 women from Brazil who had a mastectomy. The researchers used a body image scale. The results of the study showed that there are significant statistical differences between the mastectomy women in their mental perceptions of body image, as body image was negative in women who did not receive psychological or health care after the mastectomy.

Laus et al.^[29] aimed at identifying the body image represented by excess weight, general appearance, and its relationship to marital adjustment, as well as the differences between males and females in these variables. The study sample consisted of 423 males and 505 females. The researchers used a body image scale and a marital adjustment scale. The results also indicated that there are no significant statistical differences between males and females in “excess weight” as one of the dimensions of body image, while statistically significant differences were found between males and females in “overall appearance” as one of the dimensions of body image in favor of unmarried women.

Givi and Setayesh^[2] performed a study aimed at identifying sexual satisfaction as one of the dimensions of marital adjustment and its relationship to body image, as well as identifying the differences between males and females in these variables. The study sample consisted of 120 married women. The researchers used a sexual satisfaction scale and a body image scale. The results of the study showed a positive correlation between sexual satisfaction, one of the dimensions of marital adjustment, and body image.

Aydin and Kumcagiz^[30] conducted a study aimed at identifying the impact of mastectomy surgery on marital adjustment and the level of psychological loneliness. The researchers used a marital adjustment scale and a psychological loneliness scale. The results of the study showed a low level of marital adjustment in women with mastectomy, and the results also showed a difference in the marital relationship before and after surgery, where the marital relationship before surgery was good but became not new after the mastectomy.

Steginga et al.^[31] carried out a study aimed at identifying the difficulties faced by women with breast cancer in Australia. The study sample consisted of 245 breast cancer patients. The results of the study showed that four months after the surgical intervention and mastectomy, the physical condition has a significant impact on the quality of life and marital adjustment, and the results also showed that patients immediately after mastectomy suffer from a low perception of body image as well as poor marital adjustment.

In a study conducted by Diane and Joni^[32], the results showed that a woman with breast tumors faces several changes after mastectomy surgery that affect her sense of happiness and tranquility, as well as her relationship with others, and that the change resulting from this surgery affects the patient’s image of herself, and it entails a feeling of pain and fear and waiting for death.

Rudsari and Dehkordi^[33] conducted a study aimed at identifying the relationship between body image and marital adjustment. The study sample consisted of 130 infertile married women. The two researchers used a body image scale and a marital adjustment scale. The results of the study showed a correlation between body image and marital adjustment, as the results indicated that the more women have a positive body image, the greater their marital adjustment.

Aljundi and Dasouqi^[34] carried out a study aimed at identifying the relationship between effective communication and marital adjustment among those dealing with family courts individually and to find out the differences in marital adjustment according to the variables of marriage duration, educational level, and

interaction between them. The study sample consisted of 100 employees of husbands and their wives. The researcher used a scale of communication skills and a scale of marital adjustment. The results of the study showed an associative relationship between communication skills and marital adjustment.

Alayi et al.^[35] conducted a study aimed at finding out the relationship between communication skills and adjustment between spouses in a sample of 132 married students. The researchers used a scale of communication skills and a scale of marital satisfaction. The results of the study showed that there are significant statistical differences between couples who are compatible and incompatible in verbal and non-verbal communication skills. The researchers explained the need to pay attention to the role of communication skills in achieving marital harmony and preventing frequent disagreements. The results of the study also showed that there are significant differences between husbands and wives in communication skills in favor of husbands.

Ortese and Tor-Anyiin^[36] sought in their study to find out the impact of emotional intelligence on marital adjustment and communication skills of married couples in a sample of 286 husbands and wives. The researchers used measures to assess emotional intelligence, communication skills, marital adjustment, and emotion management, as well as a data form to assess the socio-economic level of the couple. The results of the study indicated a positive relationship between emotional intelligence and both communication skills and marital adjustment, and the results indicated a significant relationship between marital communication skills and emotion management. In discussing the results, the researchers clarified the relationship between communication skills and the ability of couples to achieve marital adjustment.

Khalifa^[37] aimed to investigate the relationship between emotional intelligence and marital adjustment in a sample of Egyptian husbands and wives. The study sample consisted of 152 husbands and wives. The researcher used the affective intelligence scale, the marital adjustment scale. The results of the study showed that there is a statistically significant correlation between emotional intelligence and marital adjustment, and the results also showed statistically significant differences between husbands and wives in both emotional intelligence and marital adjustment in favor of husbands.

Ali^[38] also paid attention to psychological exhaustion and its relationship to marital adjustment and some demographic variables in a sample of teachers of special categories in Minya governorate, consisting of 200 teachers of special categories. The researcher used a psychological exhaustion scale and a marital adjustment scale. The results of the study showed that there is a negative correlation between psychological exhaustion and marital adjustment in the study sample, and there is no statistically significant difference between teachers and teachers in psychological exhaustion. There is also no statistically significant difference between teachers with less than eight years of experience and teachers with more than eight years of experience in the study sample in psychological exhaustion, and there is also no statistically significant difference between teachers of special categories in psychological exhaustion.

Al-Sabban^[39] conducted a study on marital adjustment in light of some personality traits in a sample of Saudi wives in Mecca, consisting of 164 Saudi wives. The researcher used the marital adjustment scale, the profile test to measure personality traits, and the wife abuse scale. The results of the study showed that there are significant differences between consenting and non-consenting marital on the scale of personality traits; there are significant differences between consenting and non-consenting marital on the scale of abuse of women; there are significant differences between the average scores of consenting marital in personality traits depending on the variable duration of marriage; and there are significant differences between the average scores of consenting marital in personality traits depending on the variable number of children.

3. The statement of the study problem

Marriage is the beginning of life for many members of society; it is affection, compassion, psychological stability; through marriage sexual, psychological, and social satisfaction is achieved, and some married women may be surprised to have breast cancer, which requires it to be removed as one of the treatment options to remove malignant cancer cells and prevent their spread so as not to affect the whole body, and because women in general and married women in particular love beauty and aspire to it in everything, especially in the general appearance and external image. It is known that the breast is a symbol of women's femininity, motherhood and health, and a symbol of the interest of some men, and therefore the wrong perception of them to get rid of this cancerous tumor by misconnecting it and preventing the possibility of its return and the associated disturbance of their body image may pave the way for the development of serious psychological disorders and diseases represented by despair, anxiety, depression, feelings of helplessness and inferiority, low self-esteem, social isolation, psychological loneliness, inability to achieve psychological and social adjustment as well as marital adjustment, which prompted the researcher to study body image and its relationship by marital consent, a sample of married women have mastectomies .

The problem of the study can be identified by trying to answer the following questions:

The first question: Is there a relationship between body image and marital adjustment for married women after mastectomy?

The second question: Are there any significant differences between the arithmetic means of body image for married women according to the date of mastectomy (at the beginning of the mastectomy, after two years from mastectomy)?

Third question: Are there any statistically significant differences between the means of marital adjustment depending on the date of mastectomy (at the beginning of the mastectomy, after two years of mastectomy)?

4. The significance of the study

This study has theoretical and practical significance as follows:

4.1. Theoretical significance

The importance of the study lies in the importance of the variables addressed, namely marital adjustment and body image among married women, and the importance of the study lies in the appropriate selection of the study sample, which has not been studied in the Arab environment in general or Jordan in particular, namely married women after mastectomies. This study may represent an accumulation of knowledge in the theoretical field of previous studies.

4.2. Practical significance

The study may contribute to working on removing or reducing obstacles to marital adjustment and guiding wives with mastectomy towards the optimal method to achieve marital adjustment. This study may produce some results, recommendations, and proposed research that may benefit those interested in family and marital counseling. The results of the current study may be useful in the preparation of training programs aimed at developing marital adjustment skills for married women with mastectomy. The current study may contribute to the development of two psychometric measures to measure both body image and marital adjustment.

5. Terms of study

5.1. Body image

Body image refers to the images, beliefs, and mental perceptions, first, emotional, realistic or unrealistic, positive or negative, formed by an individual about himself and his body, and affecting his life negatively or positively.

The researchers define body image procedurally as the overall score obtained by married women after mastectomy on the body image scale used in the current study.

5.2. Marital adjustment

The researcher defines marital adjustment as a pattern of prevailing social relations between spouses, through which communication and harmony are achieved between them; social adjustment, acceptance, empathy, and understanding; and sexual adjustment, which works to achieve marital happiness and the ability to solve problems and face the pressures that hinder their lives. The researcher defines marital adjustment procedurally as the total score obtained by married women having mastectomies on the marital adjustment scale used in the current study^[1].

6. Study procedures

The study uses a descriptive-associative approach.

6.1. Study sample

The study sample consisted of 130 married women who had mastectomies in the cancer clinic at the Royal Medical Services and the King Hussein Cancer Center, and their ages ranged between 28 and 60 years. The researcher sought to achieve parity among the study sample members in chronological age, as shown in **Table 1**.

Table 1 shows the characteristics of the current study sample.

Table 1. The sample description according to Its demographic data.

Variable	Category	Frequency	Percentage
Mastectomy date	Less than year	86	66%
	Two years	44	34%
Age	28–35 years	25	19%
	36 to 45 years	40	31%
	46 to 55	48	37%
	56 to 60	17	13%

6.2. Study instrument

To achieve the objectives of the study, the researcher used the “body image scale and the “marital adjustment” scale, and below is a presentation of each scale.

6.2.1. Body image scale

The researcher develop this scale after reviewing the previous studies such Mohammadi-Zarghan and Ahmadi^[40]. The scale consisted in its initial form of (25) items.

6.2.2. Content validity

The scale was presented to a group of arbitrators specialized in psychology, mental health, and

psychological counseling, to give their opinions on the wording of items, their direction, and how suitable they are for married women to whom the scale will be applied, and the extent of repetition of some items, and it was the result of the arbitration that duplicate phrases that carry more than one meaning were already deleted, some items were also reworded and determined their direction, and in light of their opinions, at the end the scale consisted of (22) items.

6.2.3. Indicators of construct validity

The values of the correlation coefficients between the total score and the items were calculated as **Table 2**, display.

Table 2 shows the values of the correlation coefficients between the items and the total degree of the body image scale.

Table 2. Correlation coefficients values between each item and the total degree.

Item No.	Correlation coefficient	Item No.	Correlation coefficient	Item No.	Correlation coefficient	Item No.	Correlation coefficient
1	**0.92	7	**0.53	13	**0.59	19	**0.74
2	**0.73	8	**0.61	14	**0.53	20	**0.78
3	**0.69	9	**0.70	15	**0.60	21	**0.57
4	**0.67	10	**0.73	16	**0.75	22	**0.60
5	**0.57	11	**0.46	17	**0.61		
6	**0.74	12	**0.76	18	**0.78		

It is clear from **Table 2**, that all the values of the correlation coefficients between total score and the items were all significant, as the correlation coefficients ranged between 0.46 and 0.92.

6.2.4. Reliability of the body image scale

The reliability of the scale was extracted using split-half via the Spearman-Brown correlation coefficient, and the Guttman coefficient, and Cronbach’s alpha coefficient as **Table 3**, display.

Table 3. Reliability correlation coefficients using split-half with Spearman-Brown, Guttman, and Alpha-Cronbach.

Scale	Split-Half		Cronbach alpha
	Spearman-Brown	Spearman-Brown	
Body image	0.93	0.86	0.90

It is clear from **Table 3**, that the values of the Spearman-Brown correlation coefficient, the Guttman correlation coefficient and the Cronbach Alpha correlation coefficient are acceptable stability values.

6.2.5. Correction of the body image scale in its final form

Each of the items is matched by three responses: “yes, sometimes, no”, their scores range from “3, 2, 1” in the positive direction, and to “1, 2, 3” in the negative direction.

6.2.6. Marital adjustment scale

Some studies have been reviewed that dealt with marital adjustment, such as Khalil and Holand^[41,42], the scale consisted in its initial form (52) items.

6.2.7. Second: Psychometric properties of the marital adjustment scale

The content validity, construct validity, and the reliability were all extracted.

6.2.8. Content validity of the marital adjustment scale

The scale was presented to a group of arbitrators to express their opinions on the suitability of the scale for the study sample, the suitability of its instructions and vocabulary, as well as the extent to which its vocabulary belongs to the axis that measures it. In light of their opinions, some of the vocabulary of the scale was modified, and the items agreed upon by 90% of the arbitrators were taken, and the items that did not get this percentage of the agreement were deleted and scale consisted in its initial form from (49) items.

6.2.9. Construct validity of the marital adjustment scale

The values of the correlation coefficients between the total score and each items were calculated and with the total score of the dimension were calculated also, **Table 4**, shows the values of these correlation coefficients.

Table 4. The values of the correlation coefficients between each item and the score and the item with dimension of the marital adjustment scale.

Item No.	Correlation coefficient	Item No.	Correlation coefficient	Item No.	Correlation coefficient	Item No.	Correlation coefficient
Social adjustment							
1	**0.56	6	**0.54	11	**0.68	16	**0.63
2	**0.53	7	**0.66	12	**0.74	17	**0.71
3	**0.55	8	**0.66	13	**0.60	18	0.05
4	**0.62	9	**0.60	14	**0.47	19	**0.78
5	**0.65	10	**0.58	15	**0.57		
Empathy and understanding							
20	**0.88	25	**0.85	30	**0.86	35	**0.55
21	**0.80	26	**0.66	31	**0.77	36	**0.64
22	**0.77	27	**0.84	32	**0.67	37	**0.70
23	**0.77	28	**0.76	33	**0.82	38	**0.71
24	**0.76	29	**0.76	34	**0.68	39	**0.70
Sexual adjustment							
40	**0.86	43	** 0.66	46	**0.57	49	**0.70
41	**0.67	44	**0.64	47	**0.76		
42	**0.64	45	**0.66	48	**0.76		

It is clear from **Table 4** that all the values of the correlation coefficients were all significant and above 0.30, except item 18, which indicate that the scale has suitable construct validity.

Table 5. Reliability correlation coefficients between dimensions and total score.

No	Dimensions	Reliability
1	Social compatibility	**0.77
2	Empathy and understanding	**0.79
3	Sexual adjustment	**0.75

Based on the results of **Table 5**, it is obvious that all the correlation values are significant, which indicates the acceptable construct validity of the marital adjustment scale.

6.2.10. Reliability of the marital adjustment scale

Table 6. Reliability correlation coefficients values using split-half with Spearman-Brown, Guttman, and Alpha-Cronbach.

Scale	Split-half		Cronbach alpha
	Spearman-Brown	Guttman	
Marital adjustment	0.81	0.78	0.78

It is clear from **Table 6**, that the values of the Spearman-Brown correlation coefficient, the Guttman correlation coefficient, and the Cronbach alpha correlation coefficients have high reliability values, which were considered acceptable for the purposes of the current study.

6.2.11. Correction of the marital adjustment scale

The marital adjustment scale is corrected by a three-graded scale of “yes” with three grades, “sometimes” with two grades, and no with one grade. Items with a negative direction are given one grade for responding “yes”, two grades for responding “sometimes”, and three grades for responding no.

6.2.12. The marital adjustment scale in its final form

The marital adjustment scale in its final form consists of 48 phrases, and these phrases are distributed on three dimensions: “social adjustment, empathy and understanding, sexual adjustment,” and the researcher defines these dimensions as follows:

The first dimension: social adjustment: it means that the spouses respect each other for the other’s social customs and traditions, adapt to the responsibilities of married life, mutual respect between spouses, and feel happy and satisfied in their marital relationship, so this factor can be called “social adjustment,” and this dimension includes (18) games, represented by the following (1 ◊ 2 ◊ 3 ◊ 4 ◊ 5 ◊ 6 ◊ 7 ◊ 8 ◊ 9 ◊ 10 ◊ 11 ◊ 12 ◊ 13 ◊ 14 ◊ 15 ◊ 16 ◊ 17 ◊ 18) and the second dimension: empathy and understanding: It means cooperation, harmony, and mutual love between spouses, accepting each other, feeling family reassurance, and being patient with each other’s actions, and this dimension includes (20) items, represented by the following (19 ◊ 20 ◊ 21 ◊ 22 ◊ 23 ◊ 24 ◊ 25 ◊ 26 ◊ 27 ◊ 28 ◊ 29 ◊ 30 ◊ 31 ◊ 32 ◊ 33 ◊ 34 ◊ 35 ◊ 36 ◊ 37 ◊ 38). The third dimension is sexual adjustment: it means that both spouses enjoy satisfying their need for the opposite sex, feeling satisfied and happy about their sexual relationship, and understanding each other’s demands in this relationship. This dimension includes 10 items, as follows: 39 ◊ 40 ◊ 41 ◊ 42 ◊ 43 ◊ 44 ◊ 45 ◊ 46 ◊ 47 ◊ 48).

7. Study findings

The results of the first question, which state: Is there a relationship between body image and marital adjustment for married women after mastectomy?

To answer this question, the value of the Pearson correlation coefficient between body image and marital adjustment was calculated, and **Table 7** shows the values of these correlation coefficients.

Table 7. Values of correlation coefficients between marital adjustment and body image.

Marital adjustment	Social adjustment	Empathy and understanding	Sexual adjustment	Total degree
Body image	**0.76	**0.91	**0.77	**0.94

It is clear from **Table 7** that there is a significant statistical relationship between body image and marital adjustment with at the level of ($\alpha = 0.01$).

The results of the second question which state: Are there any significant differences between the arithmetic means of body image for married women according to the date of mastectomy (at the beginning of

the mastectomy, after two years from mastectomy)?

To answer this question the value of the *t*-test, arithmetic means, and standard deviations were calculated; **Table 8** shows this.

Table 8. The means, standard deviations and the t-test values for the significance of body image according to the date of mastectomy.

Scale	Variable	No.	Means	STD	<i>t</i>
Body image	The beginning of mastectomy	86	30.2	2.5	**13.95
	Mastectomy two years ago	44	36.9	3.3	

It is clear from **Table 8** that there are statistically significant differences between the means of body image according to the date of mastectomy in favor women who had mastectomies two years ago.

Results of the answer of the third question which state: Are there any significant differences between the arithmetic means of marital adjustment for married women according to the date of mastectomy (at the beginning of the mastectomy, after two years from mastectomy)?

To answer this question the value of the *t*-test, arithmetic means, and standard deviations were calculated; **Table 9** shows this.

Table 9. The means, standard deviations and the t-test values for the significance of marital adjustment according to the date of mastectomy.

Scale	date	No.	Means	STD	<i>t</i>
Marital adjustment	The beginning of mastectomy	86	73.1	4.7	**9.04
	Mastectomy two years ago	44	80.7	4.9	

It is clear from **Table 9**, that there are statistically significant differences between the means of marital adjustment due to date of mastectomy in favor of married women having mastectomies two years ago.

Limitation of the study

The findings of this research should be interpreted with some limitations, the study participants are all women with a mastectomy.

8. Discussion

The study findings indicated that there is a positive significant correlation between body image and marital adjustment. This result is consistent with results of Roudsari and Dehkordi^[33] which indicated the existence of an associative relationship between body image and marital adjustment, where the results indicated that the more women have a positive body image, the greater their marital adjustment. This result is also consistent with the study by Khalil^[41], which showed that there is an associative relationship between body image and marital adjustment and that there are no significant statistical differences between males and females in “excess weight” as one of the dimensions of body image, while there are significant statistical differences between males and females in “overall appearance” as one of the dimensions of body image in favor of unmarried women. The result of this hypothesis is also consistent with the results of the study by Telli and Gurkan^[1], whose results showed a positive correlation between sexual adjustment as one of the dimensions of marital adjustment and body image.

The researchers believe that the perception of married women with mastectomies of their body image would affect their behavior, their thinking style, their emotions, and marital adjustment. Body image in general is one of the orientations of individual behavior. When married women perceive mastectomies to

remove them realistically positively, their attitudes and outlook on the resection are less negative, which works to achieve marital adjustment, satisfaction with married life, and the ability to face pressures and life problems in general, and marriage in particular, caused by a successful mastectomy.

In addition, the findings indicated a significant differences in body image according to date of mastectomy in favor of women who had mastectomy two years ago.

This result is consistent with the result of a study by Figueiredo^[25], which showed the presence of a severe disturbance in body image immediately after surgical intervention in women who had undergone total mastectomy surgeries. This result is also consistent with the results of a study by Diane and Joni^[32], which showed that a woman with breast tumors faces several changes after mastectomy surgery that affect her sense of happiness and tranquility, as well as her relationship with others, and that the change resulting from this surgery affects the patient's image of herself, and it entails feelings of pain and fear and waiting for death. While the result of this question differs with the results of a study^[26], which showed that body image does not differ by demographic variables (age—level of learning—type of treatment—this result may be due to the fact that married women's perception of mastectomy for mastectomy, their perception of their body image in a positive way, their ability to deal with the problem of mastectomy and the marital challenges resulting from it successfully, their positive cognitive assessment of themselves, their sense of control over the events of married life and its affairs increases over time away from the body of married women had mastectomies two years ago than married women had mastectomies at the beginning of the resection, as the researchers see that the body image of married women who have had a mastectomy differ at the beginning of the resection from the resection two years ago, as women who have had a mastectomy for less than a year have a new body image and have not reached acceptance yet, that is, they have involuntarily moved to a new life stage that they are not used to, hence their body image is different, moreover, mastectomy women feel at the beginning of the resection as if the breast still exists, and this feeling creates an internal conflict between their previous body image and the new body image, and women who have had a mastectomy for a period of time that extended to two years have endured significant changes in their appearance that they did not expect to happen. They often reach the stage of acceptance and habituation, and they have mechanisms for adjustment and adaptation to their new body image.

The finding also indicated a significant differences in marital adjustment according to date of mastectomy in favor of women who had mastectomy two years ago. This result is consistent with the results of the study^[30], the results of which showed a decrease in the level of marital adjustment in general in women with mastectomy, the results also showed the difference between the marital relationship before and after surgery, where the marital relationship before surgery was not new after resection. This result is also consistent with the results of the study by Diane and Joni^[32], which explained that four months after the surgical intervention and mastectomy, the physical condition has a significant impact on the quality of life and marital adjustment, and its results also showed that patients immediately after mastectomy suffer from a low perception of body image as well as poor marital adjustment. While the result of this assumption differs from the results of a study by Qashqash^[26], the results of which showed that marital adjustment does not differ by demographic variables (age, level of education, type of treatment, - number of years of resection), The result of this hypothesis also differs from the results of the study by Chung et al.^[27], which showed that there are no differences in marital adjustment between married women who underwent mastectomy surgery before and after mastectomy. In light of the result of this assumption, the researcher believes that married women who have had a mastectomy for less than a year suffer from marital adjustment due to the novelty of their mastectomy and suffer from the effects of the trauma of the resection, especially since mastectomy is an irreparable loss, mastectomy for married women at its beginning is generally accompanied at first by a state

of feeling of disability and helplessness, which affects their emotions, mood, thinking, self-esteem, marital adjustment, and cognition over time, they become more aware, understanding and aware of their condition and their removal, and are more able to achieve marital adjustment in its various social, sexual, empathy and understanding dimensions, which explains the higher level of marital adjustment among married women who had mastectomies two years ago than married women who had mastectomies at the beginning of the resection.

9. Conclusion

Breast removal experience is a great psychological and physical challenge for women, as this process leaves profound effects on their self-image and marital life. Breast is an important part of the definition of femininity and sexual arousal, so they may face a significant shift in looking at themselves and experiencing self-attraction after this process. Breast loss can reduce self-confidence and affect marital relationships, as feelings of sadness and anxiety may manifest clearly. Physically, the effect on married life can be tangible, as breast loss can affect the feeling of arousal and sexual attraction. This shift requires couple adaptation, a mutual understanding of physical and psychological transformations. Psychological support and marital counselling can play an important role in promoting a partner's understanding of the transformations that occur, and building a healthy and strong desire to adapt to these transformations.

10. Recommendations

- There is a constant need to work on breast self-examination since early detection of breast cancer doubles the chances of recovery.
- Supporting the psychological needs of women with mastectomies, such as the need for security, love, and self-esteem, and establishing psychological counseling centers in various parts of the Hashemite Kingdom of Jordan to provide all psychological counseling and guidance services for mastectomies.
- Conducting interventionist studies to improve women's quality of life after mastectomy, whether through psychological support programmers or therapeutic sessions.
- Conduct further studies to detect other variables related to body image and marital adjustment in married mastectomies.

Author contributions

Conceptualization, MSN and HT; methodology, MSN; software, MSN; validation, SAK, HHT and HT; formal analysis, MSA; investigation, SAK; resources, HT; data curation, HHT; writing—original draft preparation, MSN; writing—review and editing, HT; visualization, SAK; supervision, MSN; project administration, MSA; funding acquisition, MSA. All authors have read and agreed to the published version of the manuscript.

Conflict of interest

The authors declare no conflict of interest.

References

1. Telli S, Gurkan A. Examination of Sexual Quality of Life and Dyadic Adjustment among Women with Mastectomy. *European Journal of Breast Health*. 2020, 16(1): 48-54. doi: 10.5152/ejbh.2019.4969.
2. Givi H, Setayesh S. Relationship between Sexual Satisfaction and Body Image and Attachment Styles with Marital Satisfaction. *Journal of Psychology & Psychotherapy*. 2018, 1-8.
3. Peters MA, Phelps L. Body image dissatisfaction and distortion, steroid use, and sex differences in college age bodybuilders. *Psychology in the Schools*. 2001, 38(3): 283-289. doi: 10.1002/pits.1018.

4. Cash T, Malikkula C, Yamamiy Y. Body image sexual self-schemas, and sexual functioning among college women and men. *Electron. Journal of Human Sexuality*, 2018. 7.
5. Allen K, Unwing M. Body image development and its related factors. *Journal of Psychology of Women Quarterly*. 218, (34).
6. Stacy A. Amount of influence-selected groups have on the perceived body image of fifth graders (Unpublished Master's thesis). University of Wisconsin stout Menomonie. 2019.
7. National Breast Cancer Centre. Clinical practice guide lines for the psychosocial care of adults with cancer, Endorsed April, NHMRC. 2015, p. 16.
8. Morris T. Psychological adjustment to mastectomy. *Cancer Treatment Reviews*. 1979, 6(1): 41-61. doi: 10.1016/s0305-7372(79)80058-4.
9. Brezden CB, Phillips KA, Abdolell M, et al. Cognitive Function in Breast Cancer Patients Receiving Adjuvant Chemotherapy. *Journal of Clinical Oncology*. 2000, 18(14): 2695-2701. doi: 10.1200/jco.2000.18.14.2695.
10. Brett J, Boulton M, Fenlon D, et al. Adjuvant endocrine therapy after breast cancer: a qualitative study of factors associated with adherence. *Patient Preference and Adherence*. 2018, Volume 12: 291-300. doi: 10.2147/ppa.s145784.
11. Chuang LY, Hsu YY, Yin SY, et al. Staring at My Body. *Cancer Nursing*. 2018, 41(3): E56-E61. doi: 10.1097/ncc.0000000000000507.
12. Kowalczyk R, Nowosielski K, Cedrych I, et al. Factors Affecting Sexual Function and Body Image of Early-Stage Breast Cancer Survivors in Poland: A Short-Term Observation. *Clinical Breast Cancer*. 2019, 19(1): e30-e39. doi: 10.1016/j.clbc.2018.09.006.
13. Lee H, Yoon HG. Body change stress, sexual function, and marital intimacy in korean patients with breast cancer receiving adjuvant chemotherapy: A cross-sectional study. *Asia-Pacific Journal of Oncology Nursing*. 2023, 10(5): 100228. doi: 10.1016/j.apjon.2023.100228.
14. Erturhan Turk K, Yilmaz M. The Effect on Quality of Life and Body Image of Mastectomy Among Breast Cancer Survivors. *European Journal of Breast Health*. Published online September 27, 2018: 205-210. doi: 10.5152/ejbh.2018.3875.
15. Brandão T, Pedro J, Nunes N, et al. Marital adjustment in the context of female breast cancer: A systematic review. *Psycho-Oncology*. 2017, 26(12): 2019-2029. doi: 10.1002/pon.4432.
16. Ibrar M, Peddie N, Agnew S, et al. Breast Cancer Survivors' Lived Experience of Adjuvant Hormone Therapy: A Thematic Analysis of Medication Side Effects and Their Impact on Adherence. *Frontiers in Psychology*. 2022, 13. doi: 10.3389/fpsyg.2022.861198.
17. Bal , N .& Robbins , O . Five-factor personality and marital adjustment, *Social Behavior and Personality An International Journal* ,2017, 27(3), Pp.309-317 .
18. Ganesh S, Lye MS, Lau FN. Quality of Life among Breast Cancer Patients in Malaysia. *Asian Pacific Journal of Cancer Prevention*. 2016, 17(4): 1677-1684. doi: 10.7314/apjcp.2016.17.4.1677
19. Fleming L, Agnew S, Peddie N, et al. The impact of medication side effects on adherence and persistence to hormone therapy in breast cancer survivors: A quantitative systematic review. *The Breast*. 2022, 64: 63-84. doi: 10.1016/j.breast.2022.04.010.
20. Eraso Y, Moon Z, Steinberga I. Patients' Experience of Medication Brand Changes during Hormone Therapy for Breast Cancer—an Interpretative Phenomenological Analysis. *Healthcare*. 2022, 10(12): 2558. doi: 10.3390/healthcare10122558.
21. Clancy C, Lynch J, OConnor P, et al. Breast cancer patients' experiences of adherence and persistence to oral endocrine therapy: A qualitative evidence synthesis. *European Journal of Oncology Nursing*. 2020, 44: 101706. doi: 10.1016/j.ejon.2019.101706.
22. Leniwati D, Sukoharsono EG, Prihatiningtias YW, et al. The Sufficient Sense: The Value on the Concept of Income Based on Neuro-Psychological-Spiritual Methodology. *Proceedings of the 23rd Asian Forum of Business Education (AFBE 2019)*. Published online 2020. doi: 10.2991/aebmr.k.200606.052.
23. Vasconcelos AF. Workplace spirituality: empirical evidence revisited. *Management Research Review*. 2018, 41(7): 789-821. doi: 10.1108/mrr-07-2017-0232.
24. Toledo G, Ochoa CY, Farias AJ. Exploring the role of social support and adjuvant endocrine therapy use among breast cancer survivors. *Supportive Care in Cancer*. 2019, 28(1): 271-278. doi: 10.1007/s00520-019-04814-0.
25. Figueiredo M. Breast cancer treatment in older women dose getting, what you improve your long term body image and mental health. *Journal of Clinic*. 2019, p. 4200-4009.
26. Qashqash, Z. Body image and marital compatibility among breast cancer patients, *Journal of the Faculty of Arts, Ain Shams University*, 2018, (8), pp. 275-280.
27. Chung M, Ku NP, Wu SC, et al. Factors related to post treatment marital adjustment in women with breast cancer article in Chinese. 2018, 9(2): 137-146.
28. Queiroz, S. A., de Sousa, I. M., de Melo Silva, F. R., de Oliveira Lyra, C., & Fayh, P. T. (2018). Nutritional and environmental risk factors for breast cancer: a case-control study. *Scientia Medica*, 28(2), 2.

29. Laus MF, Almeida SS, Klos LA. Body image and the role of romantic relationships. Kong F, ed. *Cogent Psychology*. 2018, 5(1): 1496986. doi: 10.1080/23311908.2018.1496986.
30. Aydin A, Kumcagiz H. Marital adjustment and loneliness status of women with mastectomy and husbands reaction. *Asian Pacific, Journal of Cancer prevention*. 2017, (12): 453-459.
31. Steginga S, Occhipinti S, Wilson K, Dunn J. Domains of distress: the experience of breast cancer in Australia. US National Library of Medicine National Institutes of Health. 2016, 25(6): 1063–1670.
32. Diane LB, Joni AM. The effects of social demand on breast, self-examination self-report. *Journal of Behavioral Medicine*. 2014, 13(2): 194-201.
33. Roudsari R, Dehkordi A. The relationship between body image and marital adjustment in infertile women. *Iranian Journal of Obstetrics, Gynecology, and Infertility*. 2014, 14(6): 9-19.
34. Aljundi ,N. and Dasouqi, D. Marital Future Anxiety (MFA) and its Relation to Self-esteem Among a Sample of University Students , *The Jordanian Journal of Educational Sciences*,2017. 13(2), 250-239.
35. Alayi Z, AhmadiGatab T, Khamen ABZ. Relation Between Communication Skills and Marital-Adaptability Among University Students. *Procedia—Social and Behavioral Sciences*. 2011, 30: 1959-1963. doi: 10.1016/j.sbspro.2011.10.380.
36. Ortese P, Tor-Anyiin SA. Effects Of Emotional Intelligence On Marital Adjustment Of Couples In Nigeria. *IFE Psychologia*. 2008, 16(2). doi: 10.4314/ifep.v16i2.23804.
37. Khalifa AL. The relationship between emotional intelligence and marital adjustment in a sample of Egyptian husbands and wives, Center for research and psychological studies. Faculty of literature. Cairo University. 2008.
38. Ali HMZ. Psychological exhaustion and its relationship to marital adjustment and some demographic variables in a sample of teachers of special categories in Minya governorate. *Journal of the Faculty of Education. Minya University*, 2008, Volume 3.
39. Al-Sabban, A. Marital adjustment in the light of some personality traits of a sample of Saudi wives in Makkah. The fourteenth annual conference of the psychological counseling center . Ain Shams University, 2007.
40. Mohammadi-Zarghan S, Ahmadi K. Marital Adjustment, Sexual Function, and Body Image after Hysterectomy. *Shiraz E-Medical Journal*. 2021, 22(9). doi: 10.5812/semj.107565.
41. Khalil MMB. Parental treatment methods, neurotic anxiety and their relationship with aggressive behavior in spouses. Indicative study. *Journal of the Faculty of Education. Zagazig University*. 2004. 12 (5), 12-25.
42. Holanda M, Reis M, Silva C, et al. Body Image of Women Submitted to Breast Cancer Treatment, *Asian Pacific Journal of Cancer Prevention*. 2018, 19(6): 1487-1493.