

Effectiveness of Nursing Intervention Program on Body Image, Marital Satisfaction and Quality of Life Among Women Post Bariatric Surgery.

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Abstract

Background: Bariatric surgery has emerged as the most successful and long-lasting treatment for morbid obesity. Many women who have undergone bariatric surgery experience a distorted perception of their bodies, which can lead to severe psychological disturbances following the procedure which in turn influence negatively on marital relation and their quality of life. **Aim of the study:** this study aimed to evaluate the effectiveness of nursing intervention program on body image, marital satisfaction and quality of life among women post bariatric surgery. **Research design:** A quasi-experimental design was conducted. **Setting:** This study was conducted at outpatient clinic & general surgery department at University Hospital in Benha. **Subject:** A purposive sample of available 50 women who underwent bariatric surgery & met the determined inclusive criteria. **Tools:** **Tool I** demographic & clinical data structured interview questionnaire. **Tool II:** Multidimensional body self-relations questionnaire appearance scale (MBSRQ-AS). **Tool III:** Enrich Marital Satisfaction scale. **Tool IV:** Moorehead-Ardelt Quality of Life Questionnaire **Results:** At pre and post program implementation, there was a highly statistically significant difference in the total mean score of different domains of body image satisfaction, marital satisfaction, and quality of life among the studied women, and a highly statistically significant positive correlation between the different domains ($P < 0.001$). **Conclusion:** intervention nursing program sessions had highly statistically significant positive effect on improving body image satisfaction, marital satisfaction and quality of life among the studied obese women underwent bariatric surgery. **Recommendation:** Further researches should be conducted to investigate expectations from bariatric surgery & to evaluate psychological health status pre- and post-surgery to gain the potential benefits regarding body image satisfaction, marital satisfaction & quality of life and overall success.

Key words: Bariatric Surgery, Body Image, Marital satisfaction, quality of life and Nursing intervention program.

Introduction

Obesity is one of the chronic diseases that affects the majority of people nowadays on a daily basis. According to estimates, one-third of adults in developed nations are overweight or obese, and by the year 2040, more than 50% of people worldwide are expected to be in this condition. Bariatric (Obesity) surgery, or weight loss surgery or metabolic surgery, includes a variety of procedures performed on people who are obese. Weight loss is achieved by reducing the size of the stomach through removal of a portion of the stomach (sleeve gastrectomy) or by resecting and re-routing the

small intestines to a small stomach pouch (gastric bypass surgery). Gastric banding, biliopancreatic diversion with duodenal switch, sleeve gastrectomy, and resection and rerouting of the small intestines to a small stomach pouch are medical procedures used to reduce stomach size or remove a piece of the stomach in order to achieve weight loss (gastric bypass surgery) (Kumar, 2020).

Many individuals who underwent bariatric surgery afterward claimed that they had inflated hopes for the procedure's results. Some people may believe that bariatric surgery will completely transform their physique, giving

them the appearance of someone who have never struggled with obesity. Others might not completely comprehend how bariatric surgery can result in skin hanging, particularly in the chest and belly, huge, obvious scars, uneven skin, and lingering body shape defects. Managing bariatric surgery patients and assessing their expectations and level of satisfaction with the results of the procedure are the roles of psychiatry and psychiatric nursing in this regard (**Ames et al.,2016**).

One of the most important interventions for people with severe obesity has been regarded bariatric surgery. Body image has been a significant factor in determining a patient's degree of happiness and expectations for weight loss. Body image is a complex, multidimensional concept, integrating components related to physical appearance, such as the mental representation of one's own size, shape, and facial characteristics, as well as personal attitudes towards one's own appearance, in which cognition, feelings, and behaviors are implicated. Body image, therefore, refers to a person's perceptions, thoughts, and feelings about his or her body and outward appearance. Dissatisfaction with body image leads to disturbances in the several components that integrate this concept (perceptual, cognitive, affective, and behavioral), since they interact and influence each other (**Bertoletti et al.,2019**).

Moreover, patients express more body dissatisfaction and desire for surgery to change the appearance of specific body parts. Decision for bariatric surgery was self-driven, as well as influenced by family, healthcare providers, and other people who have undergone bariatric surgery. Thus, it is important for psychiatrists to consider the psychological health of the patient, clarify their expectations from bariatric surgery and evaluate whether such expectations are realistic. The expectations regarding body image after bariatric surgery have to be evaluated if it can actually be achieved according to well-established clinical criteria (**Bertoletti et al.,2019**).

Bariatric surgery represents the only effective treatment for extreme obesity and leads to significant and long-term weight reduction with a concomitant significant

improvement in overall quality of life. A perception of poor body image persists even with significant and expected weight loss in most bariatric surgery patients who were dissatisfied with their body weight, perceiving it greater than it actually is. All these changes following bariatric surgery have been shown to negatively affect self-esteem, body image, physical functioning, and overall quality of life. Measures of quality of life that are positively affected by bariatric surgery include physical functions such as mobility, self-esteem, work, social interactions, and sexual function (**Ottawa, 2016**).

Marital satisfaction is a subjective construct that is widely used, alongside marital quality, success, and adjustment, to evaluate the relationship between partners. It is described as a set of feelings and sensations that include warmth, safety, and well-being, and as the expectations about the exchanges that exist in that type of relationship. The way that couples organize their family and professional responsibilities, and the existence of good communication, are important aspects to consider in their marital adaptation and satisfaction, since the tensions between these two scenarios may impair their assessment of the marital satisfaction (**Martínez,2019**) Thus, these are activities that are inherent to a couple's life, and that require complicity in interests, the establishment of rules, and the development of relational patterns (**Tavakol et al.,2017**).

The success of bariatric surgery is not solely based on how much weight the patient loses but also on improvements in quality of life. Quality of life is multifaceted and is typically operationalized as physical well-being, mental well-being, and social and/or functional domains, with many instruments measuring one or more of those categories. To better assess the efficacy of bariatric surgery, the impact of surgical interventions on quality of life needs to be systematically examined and the magnitude of effect quantified (**Hachem et al.,2016**).

However, the patients' mental health status after bariatric surgery can be attributed to weight loss and subsequent gains in body image, self-esteem, increase marital satisfaction as well

as self-concept which respectively improve quality of life. Other important factors contributing to post-surgical mental health include a patient's sense of taking control of his/her life and support from health care team. Also, preoperative psychological health and patient expectations play a crucial role in mental health promotion. However, not all patients report psychological benefits post bariatric surgery. Some patients remain to struggle with weight loss, maintenance and regain leading to body image dissatisfaction. Therefore, the role of the psychiatric and mental health professional is essential and includes interventions before and after surgery. The role of psychological evaluation is complex, and it determines the eligibility for surgery. While there are infrequent conditions when the mental health professional take a stand against surgery, it is more likely that severe psychological issues would result in postponement of surgery until these concerns have been adequately resolved (**Jumbe et al.,2017**).

A mental health nurse with experience in bariatric surgery can provide valuable help that make the complete transition to "success," beyond only simply losing a significant amount of weight (**Ogden et al.,2019**). Hence, psychiatric nurse should be addressing the psychological issues (body image dissatisfaction, mood disorders, and low self-esteem) pre and post bariatric surgery. Moreover, psychiatric and mental health nurses have a considerable role for patient after bariatric surgery includes help patients to focus on following dietary recommendations and making marked changes in their eating behavior, increase body image satisfaction, and improve their quality of life (**Graham et al.,2019**).

Significance of the study:

Changes in body image after bariatric surgery have been found to be predictors of weight regain. The self-perception and satisfaction with body image are fundamental for self-acceptance. Additionally, distorted body image after bariatric surgery increases the risk of depression, leading to loss of control over eating and a consequent marital dissatisfaction and poor quality of life. Therefore, it was important for psychiatric nurses to assess body

image, marital satisfaction, and quality of life to tailor an appropriate nursing intervention for women post bariatric surgery with additional support and resources to optimize weight loss following such surgery.

Aim of the study

The aim of the present study was to evaluate the effectiveness of intervention nursing program on body image, marital satisfaction and quality of life among women post bariatric surgery through:

- Assessing body image, marital satisfaction and quality of life among the studied women.
- Designing nursing intervention program about body image, marital satisfaction and quality of life for the studied women.
- Implementing intervention nursing program for the studied women.
- Evaluating the effectiveness of nursing intervention program on body image, marital satisfaction and quality of life among the studied women.

Research Hypothesis:

To fulfill the aim of the study the following research hypothesis was formulated:

Nursing intervention program will enhance body image, marital satisfaction and quality of life among women post bariatric surgery.

Subject and Methods

Research design: A quasi-experimental design used to study cause-and-effect relationships and to conduct the aim of this study.

Setting: This study was conducted at the outpatient clinic and general surgery department at University Hospital in Benha, Qalyubia governorate. This hospital is affiliated to Ministry of Higher Education and it consists of two major buildings (medical building and surgical building).

Subject:

A purposive or judgmental sample of 50 women who is selected based on their characteristics that matched with determined inclusive criteria as following.

- Married obese women & underwent bariatric surgery.
- Agreed to participate in the study
- Free from any psychiatric disturbances.

Tools of the study:

Four tools were used in this study to achieve study aims.

Tool I: demographic and clinical data structured interview questionnaire: It was developed by the researchers based on literature review and comprised demographic and clinical data related to studied women such as, age, educational level, occupation, residence, presence of chronic illness, type of chronic illness, family history of overweight, behavioral approaches for weight management and psychological factors leading to bariatric surgery.

Tool II: Multidimensional body self-relations questionnaire appearance scale (MBSRQ-AS)

composed of 34-items, developed by **Cash (2007)** to assess body image. MBSRQ-AS proved to be valid and reliable on Egyptian population **Alkholy (2018)** (MBSRQ-AS) is well validated measure that evaluates appearance related component of body image and each (MBSRQ-AS) is the mean of its subscale score. It used to assess Appearance Evaluation (7 items), Appearance Orientation (12 items), Body Areas Satisfaction (9 items), Overweight Preoccupation (4 items), and Self-Classified Weight (2 items).

Scoring system of (MBSRQ-AS) as followed; A 5-point Likert Scale; a low score of "1" indicated that the participant highly disagreed with a given statement, whereas a high score of 5 indicated that the participant highly agreed with it. Higher scores reflected greater satisfaction with the specific domain. Cronbach's alpha test up to 0.88

Tool III: The Enrich Marital Satisfaction scale (EMS).

The scale was developed by **Fowers & David, (1993)**. It composed of 115-item. The questionnaire used to identify potential conflicts, strengths and growth areas in a marriage. Enrich

is a reliable tool widely used to evaluate marital satisfaction. It consists of 12 sub-scales. The first scale includes 5 questions, and the rest include 10 questions. The sub-scales in the questionnaire are: ideal alteration (1-5); marital satisfaction (6-15); personality compatibility (16-25); role relationship (26-35); conflict resolution (36-45); financial management (46-55); free time activities (56-65); sexual relationship (66-75); children and parenting (76-85); family and friends (86-95); equality (96-105); religious tendencies (106-115).

Each question was assigned 5 choices. The choices were: extremely; very; somewhat; a little; very little. Except for questions 96 to 105 whose possible answers were "always," "often," "I'm not sure," "rarely", and "never," the other questions were scored from 0 to 4. Accordingly, the

highest possible score on this questionnaire was 460. Higher scores indicated greater marital satisfaction. Cronbach's alpha test up to 0.81.

Tool IV: Moorehead-Ardelt Quality of Life Questionnaire

It was originally developed by **Moorhead et al(2003)** as a disease-specific instrument to measure postoperative outcomes of self-perceived quality of life (QoL) in obese patients. 5 key areas were examined: self-esteem, physical well-being, social relationships, work, and sexuality. Each of these questions offered 5 possible answers, ranged from very poor (-3 to -2.1), poor (-2 to -1.1), fair (-1 to 1) good (1.1 to 2) and very good (2.1 to 3), which were given -.50 or +.50 points according to a scoring key. The instrument is simple, unbiased, user-friendly and can be completed in <1 minute. It has been found useful, reliable and reproducible in numerous clinical trials in different countries. Reliability was determined using Cronbach's alpha coefficient (0.76), construct validity was measured by conducting a series of Spearman rank correlations.

Field work:

The study was carried out on five phases:

I. The preparatory phase.

Tools development:

The researchers developed the study tools after extensive review of relevant

literature of the current study, local & international, using text books, articles, and scientific magazines. This phase ended by a pilot study.

Pilot study:

A pilot study carried out on five women that represent 10% of the study subjects and will be excluded later from the study, in order to test the feasibility & practicability of the study tools and to estimate of time needed to fill out the tools. And the results, no modifications were made on tools of the current study.

Administrative design:

An official permission was obtained by the researchers from the Dean of the Faculty of Nursing and from the directors of Benha University Hospital to collect the required data and explain the aim of the study for them to obtain their cooperation.

Ethical Considerations

After obtaining an official permission to conduct the study, the researchers met with the eligible women to explain the purpose & nature of the study. Also, anonymity and confidentiality were assured through coding the data and the data were not reused in another research without their acceptance. Consent was obtained and the participants were assured that participation in this study was voluntary and they had the right to withdraw from the study at any time without any penalty.

II-Assessment phase:

During this phase, the researchers met with the eligible women under study in both settings to guide them throughout filling out the tools, where it took about 20-30 minutes. Data collection was carried out over 6 months from November 2021 to April 2022.

III: Planning and development phase:

During this phase the researchers developed the program's content & sessions based on to pretest assessment of their needs by using the research tools.

IV: Implementation phase:

This phase took two months to conduct 10 program sessions for women under the study (4 theoretical and 6 practical). Each session lasted for approximately 45–60 minutes. Suitable teaching aids prepared specially for the program were: booklets (handouts), videos, and pictures. At the end of every session, the women's questions were discussed to clarify any misunderstandings that happened during it, and the beginning of the next session started by summarizing the content of the previous session. The studied women attended the program's sessions in groups. The number of women in each group varied from 5 to 7 women according to their presence in the above mentioned two settings. Each woman attended two sessions weekly in the waiting areas. The researchers used simple Arabic language to ease their understanding of each program's sessions and gain their interaction and cooperation. The program's sessions were as follows:
Sessions (1): Introductory session (acknowledgment between researchers and women and each other's, introduction, content of the program and expected outcomes).
Sessions (2): obesity, complication of obesity and bariatric surgery

Sessions (3): Techniques and coping strategies to deal with unhealthy eating behavior

Sessions (4) & (5): Body image (definition, causes for disturbed body image, utilizing methods of increasing body image satisfaction, measures of caring for their body, applying assertive techniques to face negative comments, exercises that used to improve their body appearance and methods of expression about feeling regarding body image).

Sessions (6) & (7): Marital satisfaction. (Definition, domains of marital satisfaction, utilizing methods to decrease marital dissatisfaction, coping with marital conflict with new adopted communication skills, different strategies to reduce stress and importance of social support).

Sessions (8) & (9): quality of life. (Definition, quality of life domains, exercise how to overcome on psychosocial influences for unhealthy eating behaviors, skills to improve life satisfaction, practices that affect negatively on body image satisfaction, physical exercises,

modify the lifestyle, different strategies to reduce stress, meditation and yoga and applying methods of improving self-esteem as a domain of quality of life).

Sessions (10). Closing session.

Summary of the above-mentioned sessions and posttest. At the end of every session, the women questions were discussed to clarify any vagueness or misunderstanding,

Method of teaching:

Lectures, group discussion, role play and demonstration & redemonstrations

Media used:

Booklet, pictures, audiovisual, and paper & pen

Evaluation method:

Feedback through oral question, redemonstration and positive participation & interaction.

Phase V: - Evaluation phase:

The last phase of the proposed nursing intervention program was the evaluation phase. After implementation, the participating women's knowledge and practices have been evaluated by the researchers by using the previously mentioned data collection tools. A line of contact was established between the researchers and subjects for feedback, monitoring, and the provision of needed consultation and help.

Statistical design

The Statistical Package for Social Sciences (SPSS) program version 25.0 was utilized for data analysis. Qualitative data were described using numbers and percentages, and quantitative data were described using mean and standard deviation, Paired t test, while Chi-Square (χ^2) for qualitative variables and Pearson Coefficient (r test). The level of significance selected for this study was P equal to or less than 0.05.

Results:

Table (1), reveals that mean age of studied women were = 39.2 ± 6.62 years old, nearly quarter of them (24.0%) had primary education, (40.0%) had bachelor. Regarding occupation, slightly less than two third of them (64.0%) were employing and most of them (84.0%) were living in an urban area.

Table (2), illustrates that about two thirds (60.0% & 64.0%) of the studied women had a chronic illness, had not family history for obesity respectively. More than 94.0% half of them (53.3%) had hypertension. Most of the studied women had tried different behavioral approaches for weight management such as diet (20%) or exercise (20%) or diet and exercise (40%), or use of medication (10%).

Figure (1), demonstrates the psychological factors leading the studied women to undergo bariatric surgery. Nearly three-quarters (72%) of the studied women were exposed to various degrees of sarcasm and discrimination from others, and two thirds (65 %) of them, their social relations affected due to obesity, as well as less than half of them (40%) did not receive any psychosocial support from family or friends.

Table (3), shows that there were statistically significant differences between mean scores pre and post implementation of the program in all body image satisfaction domains: appearance evaluation, appearance orientation, body area satisfaction, overweight preoccupation, self-classified and weight domain, as well as a total mean of body image satisfaction with P value 0.000.

Table (4), displays that there were statistically significant differences between mean scores pre and post implementation of the program in all marital satisfaction subscales and total marital satisfaction with P value 0.001.

Figure (2), illustrates that 16% of the studied women had very good quality of life pre-program implementation, while 44% of them had very good quality of life post-program implementation. And, there were statistically significant differences in the levels of quality of life of the studied women pre and post program implementation, with a P value of 0.000.

Table (5), demonstrates that there were positive correlations among body image satisfaction, marital satisfaction, and quality of life of the studied women, with P values of 0.00 and 0.001.

Table (1): Frequency & percentage distribution of the studied women regarding their demographic data. (No.50)

Demographic Characteristics	Studied sample (n = 50)	
	No.	%
Age (in year)		
19- < 25	6	12.0
25 < 35	12	24.0
35 < 45	18	36.0
≥ 45	14	28.0
Mean ± SD	39.2 ± 6.62	
Educational level		
Illiterate	3	6.0
Primary Education	12	24.0
Secondary school	10	20.0
Diploma	5	10.0
Bachelor	20	40.0
Occupation		
Employing	32	64.0
Not employing	18	36.0
Residence		
Rural	8	16.0
Urban	42	84.0

Table (2): Frequency & Percentage Distribution of the Studied Women Regarding their Clinical Data (No.50)

Clinical data.	Studied sample (n = 50)	
	No.	%
Presence of chronic illness		
Yes	30	60.0
No	20	40.0
Type of chronic illness	n=30	
Hypertension	16	53.4
Diabetes Mellitus	10	33.3
Arthritis	4	13.3
Family history of overweight		
Yes	18	36.0
No	32	64.0
Behavioral approaches for weight management		
No	5	10.0
Diet	10	20.0
Exercise	10	20.0
Diet and exercise	20	40.0
Medications	5	10.0

Figure (1): Psychological factors leading the studied women to undergo bariatric surgery.

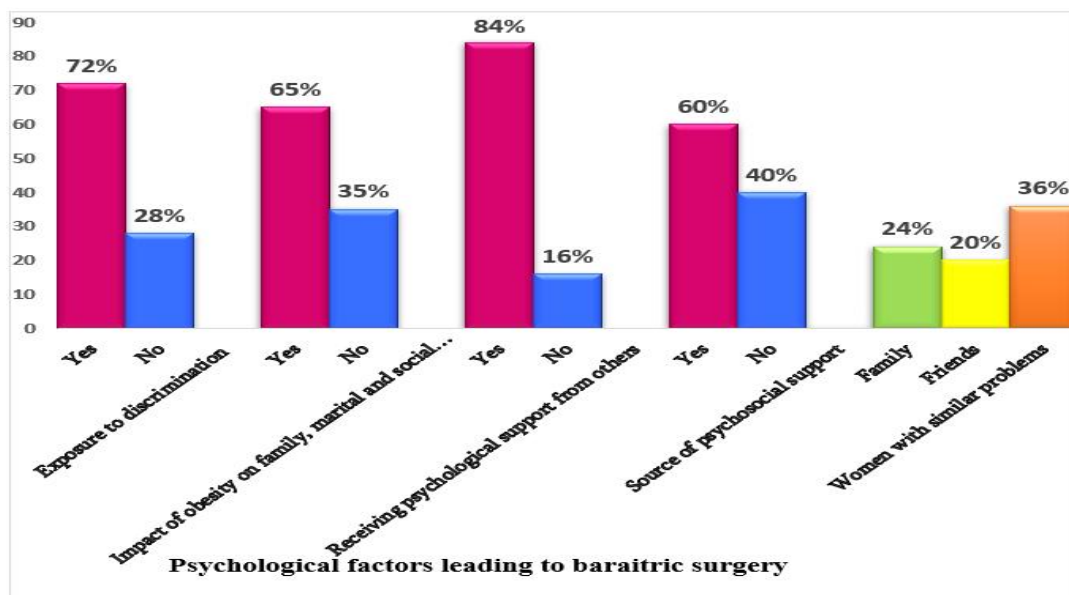


Table (3): Body image domains mean scores among the studied women pre and post nursing intervention program implementation

Body image satisfaction domain	Pre program Mean ±SD	Post program Mean ± SD	t- test	P- value
Appearance evaluation	18.500±11.296	23.400±10.402	7.469	0.000**
Appearance orientation	31.00±19.075	42.10±16.272	6.047	0.000**
Body area satisfactions	23.50±14.33	31.40±12.38	6.242	0.000**
Overweight preoccupation	10.70±6.48	14.40±5.858	6.243	0.000**
Self-classified weight	5.30±3.29	7.8±2.955	7.235	0.000**
Total body image satisfaction	89.00±54.379	119.10±47.079	6.511	0.000**

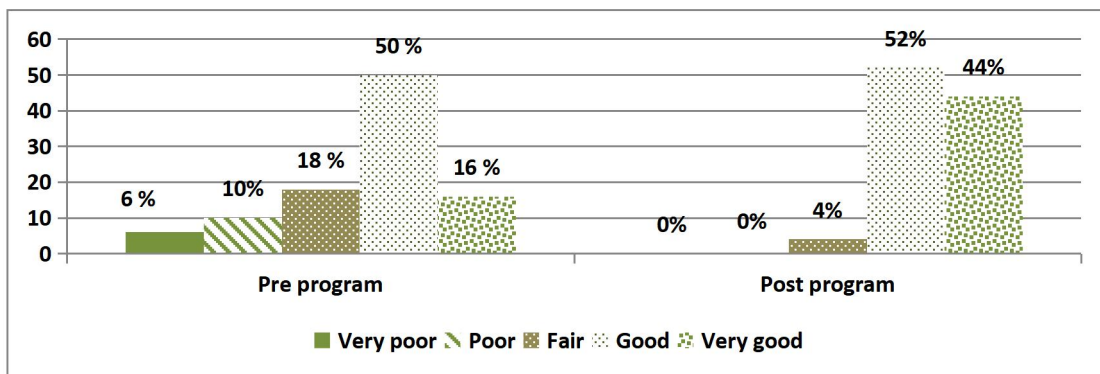
P value 0.000

Table (4): Marital satisfaction mean scores among the studied women pre and post nursing intervention program implementation.

Marital satisfaction subscale	Pre- program n = 50	Post- program n = 50	T test Value	P Value
1. Ideal alteration	7.20 ± 6.951	13.20 ± 7.253	9.845	0.001**
2. Marital satisfaction	13.20 ± 14.906	26.0 ± 15.03	8.035	0.001**
3. Personality compatibility	13.04 ± 14.092	25.90 ± 14.655	9.032	0.001**
4. Role relationship	13.50 ± 14.563	26.50 ± 14.301	9.268	0.001**
5. Conflict resolution	13.200 ±14.961	26.20 ± 14.046	8.349	0.001**
6. Financial management	13.40 ± 14.251	26.90 ± 13.251	9.992	0.001**
7. Free time activities	13.80 ± 14.155	26.20 ± 14.298	8.618	0.001**
8. Sexual relationship	13.80 ± 14.588	26.60 ± 14.172	8.779	0.001**
9. Children and parenting	13.30 ± 13.821	26.50 ± 13.822	9.573	0.001**
10. Family and friends	13.0± 14.127	26.70 ± 14.470	8.927	0.001**
11. Equality	14.60 ± 14.11	26.30 ± 13.880	8.290	0.001**
12. Religious tendencies	13.10 ± 13.742	27.0 ± 12.503	10.913	0.001**
Total Marital satisfaction	155.5±163.517	304.0 ± 161.346	9.032	0.001**

P value 0.001

Figure (2): Quality of life pre and post program implementation among the studied women.



$\chi^2 (1) =$ Relation between pre& post guidelines (56.205) (p=0.000**)

Table (5): Correlation between body image satisfaction, quality of life and martial satisfaction post nursing intervention program implementation among the studied women.

Correlation	Body Image Satisfaction		Quality of life	
	R	P	R	P
Quality of life	.287	.000**		
Body Image Satisfaction				
Enrich martial satisfaction	0.233	0.001**	0.376	0.001**

P value 0.00 & 0.001

Discussion

A continuous increase in a number of people with excessive body mass observed in the last decade has made the obesity and its related diseases one of the main health problems in the contemporary world. Obesity is considered as one of the major global epidemic problems recently; this issue leads to increasing the rate of bariatric surgery (Park et al.,2014) Bariatric surgery is a procedure that leads to long term weight loss (National institute of diabetes and digestive and kidney diseases,2018), moreover it is effective in reducing comorbidities, improve body image (Ivezaj et al.,2018).

However, many people who have undergone bariatric surgery experience a distorted perception of their bodies, which can lead to severe psychological issues following the procedure. Therefore, patients must start talking about their expectations and body image as soon as possible following surgery, ideally even before. Accordingly, the current research aimed to evaluate the effectiveness of nursing intervention program on body image, marital

satisfaction and quality of life among women post bariatric surgery.

Regarding demographic characteristics of the studied subjects, the present study findings revealed that age of the majority of the studied women was ranged between 35to 45years, two fifth of them had bachelor’s degree. This could be due to the younger patients (35-45 years) preferred for those surgeries because the beauty is associated with slim being. This result agrees with findings of the study conducted by Alotaibi et al (2022) titled with Post-Bariatric Surgery Patients: A Quality-of-Life Assessment in Saudi Arabia, stated that 45%of 400 participants in their study, their age ranged 36 to 45 years ,40% of the participants completed their bachelor’s degree.

As regarded chronic illness among the studied women, nearly half of them were hypertensive and this confirm the notion that obesity and hypertension are commonly linked. Where, the obesity is a major contributor and responsible for hypertension either in men and women as well. This result- agrees with Oyekale AS. (2019) who concluded that hypertension risk was positively associated with

being overweight, obesity among their studied women.

Regarding psychological factors leading women to undergo bariatric surgery: The findings of the current research highlighted that exposure to sarcasm, discrimination, and absence of social support were mainly linked. Within the context, the current study findings revealed that nearly three quarters of the studied women were exposed to various degrees of sarcasm and discrimination from others, and two thirds of them, their social relations were affected due to obesity, as well as less than half of them did not receive any psychosocial support from family or friends. This supports the stigma associated with obese women which not limited only on criticism, shame and discrimination, but also repeated and frequent blaming them for their own ill-health because of laziness and overeating. Accordingly, all that lead to social isolation, loneliness, poor perception of body image, decrease satisfaction, disturbance in marital relationship and poor quality of life. These findings were similar to the study of **Johnson et al (2018)** titled with **pre-surgical, surgical and post-surgical experiences of weight loss surgery patients: a closer look at social determinants of health**, which showed that obese women who underwent bariatric surgery had experienced weight discrimination as well as in all of the interviews of the same study, the participants recalled situations of “fat-shaming” by peers, family members, and colleagues. Thus, it is expected for an obese person to lose their happiness, feel hopeless and increasing their body image dissatisfaction. Also, this finding is in agreement with **Kiernan et al (2012)** that indicated lack of support among overweight and obese women was prevalent, with the most obese women were reporting never or rarely receiving support from members of family and friends for their weight loss efforts. Additionally, **Martínez(2019)** showed that social support had a positive effect on weight loss in women. Also, **Kvalem et al(2016)** study showed that post-bariatric patients who lived with discouraging families reported episodes of overeating post-surgery while the patients who lived with a supportive family did not. Also, **Voller et al(2016)** stated that social support helped in long-term weight loss and suggested

peer sponsorship as a unique strategy to maintain proper bariatric lifestyle practices over time.

In terms of satisfaction with body image domains among the women studied pre and post nursing intervention program, the current study found statistically significant differences in mean scores pre and post program implementation in all body image satisfaction domains as well as total body image satisfaction with P value 0.000. This result indicates the effectiveness of nursing intervention program on enhancing their body images, and the results also lend support to the notion that personality traits, appearance, and satisfaction are associated with optimal improvements in body image. This is a noteworthy finding that has clear clinical applicability because body image affects psychological well-being and the ability of an individual to maintain weight loss. And this is in the same line with **Zwaan et al (2014)** who stated that patient satisfaction is influenced by different factors such as overall outcome, personality traits, appearance investment, and the satisfaction itself, leading to positive effects on body image and better long-term health. This result agrees with **Devaraj et al (2010)** who conducted the study titled "**Enhancing Positive Body Image in Women: An Evaluation of a Group Intervention Program**," and concluded that evaluation of the program showed improvements in body satisfaction and self-esteem, decreases in physique anxiety, and body image distress consistent with the study's aims. This disagrees with **Gharemani et al (2018)** who conducted a study titled **Effects of an educational intervention targeting body image on self-esteem of Iranian high-school students: a quasi-experimental trial** which showed that there were no significant differences between the experimental and control regarding parental occupation, parental education, age, and the variables of body image and self-esteem. With a P value of 0.001, the current study results show statistically significant differences in mean scores pre and post program implementation in all marital satisfaction subscales and total marital satisfaction. This could be due to the topics of the current intervention program covering the different domains of marital satisfaction; adopting

methods to decrease marital dissatisfaction; coping strategies with marital conflict; how to reduce stress; and the importance of social support. And this result, of course, indicates the effectiveness of the program regarding these issues. This result is consistent with the results of a study that was conducted by **Siji et al (2018)** and reported that there were significant differences in most of the dimensions of marital quality before and after marital counseling. As well as this result is in agreement with the study carried out by **Kwena et al (2022)** and concluded through their findings that the implemented intervention was associated with improvements in marital relationship satisfaction and reductions in HIV high-risk behaviors necessary for achieving epidemic control in HIV hotspots such as fishing communities in western Kenya.

Another finding of the current study showed that there were statistically significant differences in levels of quality of life among the studied women pre and post program implementation. That means there were significant improvements in the areas of self-esteem, physical well-being, social relationships, work, and sexuality among the studied women post-program implementation. And this interprets the effectiveness of the presented topics within the intervention program that was concerned with quality-of-life domains: following necessary practices to overcome psychosocial influences for unhealthy eating behaviors; adopting practices to improve life satisfaction; raising body image satisfaction and modifying the lifestyle; practicing different strategies to reduce stress; and improving self-esteem as a domain of quality of life. This result is consistent with the study conducted by **Najim(2014)** titled "Effect of Intervention Educational Programs on Improving Quality of Life among Overweight/Obese University Students in Gaza Strip" which concluded that the health educational intervention program had positive effects on knowledge, practices, and attitudes regarding overweight/obesity, with improving university students' mean score of quality of life. Moreover, this result is in the same line with the study carried out by **Ambak et al (2018)** who stated that weight loss intervention programs utilizing behavioral modification led to a significant improvement in

health-related quality of life among overweight and obese housewives.

The last finding of the present study demonstrated that there were positive correlations between body image satisfaction, marital satisfaction, and quality of life with P values of 0.00 and 0.001. In the researchers' view, this explains the notion that issues concerned with body image, marital satisfaction, and quality of life are closely linked and influenced positively among women post bariatric surgery, because they probably underwent the current intervention program. This result is consistent with the results of a study done by **Babayan et al (2018)**, with the title **A Study on Body Image, Sexual Satisfaction, and Marital Adjustment in Middle-Aged Married Women** which showed that sexual satisfaction, body image, and marital adjustment were positively and significantly correlated. In this regard, **Karagülle et al (2019)** concluded that women's weight loss after bariatric surgery seemed to improve psychological well-being and marital satisfaction when assessed 6 months post-operatively. Also, **Bunker et al (2017)** stated through their study that females showed a positive relationship between quality of life and marital satisfaction.

Conclusion

Based on the findings of the present study, it can be concluded that, the intervention nursing program sessions had highly statistically significant positive effect on improving body image satisfaction, marital satisfaction and quality of life among the studied obese women underwent bariatric surgery.

Recommendations

Based on findings of the current study, the following recommendations are suggested:

A. Concerning women, their families, and community

- Conducting the designed nursing intervention program for increasing the obese women awareness regarding psychological consequences of bariatric surgery & dramatic

changes in their physical appearance and how to adapt with it to enhance body image satisfaction & marital satisfaction and in turn heightened overall quality of life.

- Increasing community awareness about the negative impact of sarcasm and bullying on the mental health status of obese women and how to help them engage in a healthy lifestyle.

B. Concerning nursing staff:

- Nurses should be educated about significance of managing psychological concerns associated with bariatric surgery.

C. Concerning bariatric surgery centers:

- Conducting psychological assessment for the obese women before and after bariatric surgery with regular psychosocial counselling. And checking with them any unrealistic expectations regarding results of bariatric surgery

D. Concerning for further research:

- Further researches should be conducted to investigate expectations from bariatric surgery & to evaluate psychological health status pre and post-surgery to gain the potential benefits regarding body image satisfaction, marital satisfaction & quality of life and overall success.

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