

## The effects of breast reduction operation on patients' mood and sexual life

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### Abstract

**Aim.** Breast hypertrophy is a condition that can negatively affect the quality of life of women in physical, psychological and sexual aspects. In this study, the effects of breast reduction operation on the psychological and sexual life of the patients in the postoperative period were investigated.

**Material and Methods.** 31 patients who underwent breast reduction surgery were included in the study. The patients were evaluated preoperatively and 6 months after surgery. Rosenberg Self-Esteem Scale and Beck Depression Scale were used for psychological evaluation. The Arizona Sexual Experiences Scale was used to evaluate sexual functions, as well.

**Results.** The average age of the patients was  $41.2 \pm 5.6$  and the average BMI was  $29.3 \pm 3.18$ . The mean scores of Rosenberg Self-Esteem Scale before and after surgery was  $1.36 \pm 0.94$  and  $1.02 \pm 0.63$  ( $p < 0.05$ ). The mean scores of Beck Depression Scale was  $14.41 \pm 10.11$  and  $10.35 \pm 10.11$  ( $p < 0.05$ ), respectively. When the Arizona Sexual Experiences Scale was examined, a statistically significant positive effect was observed in all subgroups compared to the preoperative period.

**Discussion and Conclusions.** After breast reduction surgery, patients have a very high level of satisfaction physically. There are some studies showing that breast reduction surgery has a positive effect on women, especially psychologically, but very limited research has been done on sexual function. This study showed that breast reduction surgery increases self-esteem and provides a positive effect on emotional state. At the same time, it has been found that it has a positive effect on sexual functions and sexual life.

### Breast reduction surgery, self – esteem, sexual life

### INTRODUCTION

Macromastia or breast hypertrophy is a condition where a person's breast tissue is larger than their body. It usually causes some physical com-

plaints such as back, neck and shoulder pain<sup>3</sup>. However, it may also induce some psychological problems as it is stated that the physical appearance of the individual changes the body image and this change can be perceived as a threat to self-esteem, thus this situation often causes insufficiency and problems in the sense of pleasure and satisfaction [1,2]. Women with macromastia do not feel attractive, avoid exposing their bodies in public places such as the beach. These problems negatively affect the quality of life and can lead to depression and anxiety dis-

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orders. For this reason, it is important to correct body perception and shape and function disorders in the macromastia in shaping self-esteem. Surgical treatment applied to women who have undergone aesthetic breast reduction surgery increases the individual's sense of self-confidence and affects the quality of life [3].

When we look at it from the sexual perspective, for women, sexuality is a broad concept that includes emotional, intellectual and sociocultural components as well as being desirable, childbearing ability and body image. Macromastia that affects sexuality directly or indirectly may disrupt sexual function and thus cause physical, mental and social problems in individuals [4,5].

During breast reduction surgery, large breast tissue is reduced in volume and it is also aesthetically reshaped. In some studies, it has been shown that patients are physically relieved after breast reduction surgery with the increase of their self-confidence [6]. However, the effects of breast reduction on the sexual activity of patients has not been studied much. In this study, the effects of breast reduction surgery on patients' self-esteem, mood and sexual life were investigated.

## MATERIAL AND METHODS

After the approval of the institutional ethics committee of the study (The ethics committee approval number: 2014/621), 31 patients who applied to the plastic reconstructive and aesthetic surgery clinic for breast reduction surgery and had at least D Cup breast size were included in the study. Sociodemographic characteristics of the patients (age, height, weight, educational status, employment status, number of children) were recorded. Those with chronic diseases (psychiatric diseases not related to macromastia, diabetes, HT, malignancy, etc.), genitourinary and gynecological diseases were excluded from the study.

Breast reduction surgeries were performed by the same surgeon and using the same technique. The patients filled in the Rosenberg Self-Esteem Scale, Beck Depression Scale and Arizona Sexual Experiences Scale before the surgery and 6 months after the surgery.

Rosenberg Self-Esteem Scale was used to evaluate the self-esteem of the patients. The scale consists of ten questions with four alternatives evaluating self-esteem [7].

Rosenberg Self-Esteem Scale was developed by Morris Rosenberg in 1965 and was validated for use in Turkey by Cuhadaroglu et al [8]. It is a 10-item scale that measures an individual's global self-worth. All items are answered using a four-point Likert scale format ranging from 1 (strongly disagree) to 4 (strongly agree). A high score on the scale indicates impairment to self-esteem.

Beck Depression Scale is a self-assessment scale. It is used to determine the risk for depression and to measure the level of depressive symptoms and the change in severity. Each item of this form, which includes a total of 21 self-assessment scales, gets a gradually increasing score between 0-3 and the total score is obtained by adding them. The higher the total score is, the higher the depression severity is. A score of 0-9 shows normal, 10-16 mild shows depressive symptoms, 17-29 moderately depressive, and 30-63 depressive symptoms [9].

Each question in the Arizona Sexual Experiences Scale examines sexual desire, psychological arousal, physiological arousal, capacity to reach orgasm and satisfaction as a result of orgasm. Each question is scored from 1 to 6, the total score varies from 5 to 30. A total score of 19 and above, any item having 5 or 6 points, or three or more items having 4 points indicate sexual dysfunction and are highly associated with clinician-defined sexual dysfunctions [10].

## STATISTICAL ANALYSIS

SPSS 21 program was used for statistical analysis of the data obtained from the study. While evaluating the study data, mean and standard deviation were used as descriptive tests. The dependent t-test was used to compare preoperative and postoperative data. Significance was evaluated as  $p < 0.05$ .

## RESULTS

The mean age of the patients was  $41.2 \pm 5.6$ , and the BMI was  $29.3 \pm 3.18$ . The average total breast

resection amount was 1376 g (840 g – 1730 g). When the education levels were examined, 19 patients were primary school graduates, 7 patients were middle school graduates, 3 patients were high school graduates, and 2 patients were university graduates. While 29 patients were housewives, 3 patients were working (Table 1).

**Table 1.** Sociodemographic characteristics

Age (year)	41.2 ± 5.6 ( Mean±SD )
BMI (kg/m <sup>2</sup> )	29.3 ± 3.18 (Mean±SD )
Eduvation level	
Primary school	n=19
Junior high school	n=7
High school	n=3
University	n=2
Working status	
Employed	n=3
Unemployed	n=29
Number of the children	
0 (n= 1) 1 (n=3) 2 (n=11) 3 (n= 9) 5 (n=1) 4 ( n=5) 6 (n=1)	

The mean scores Rosenberg Self-Esteem Scale before and after surgery was 1.36 ± 0.94 and 1.02 ± 0.63 respectively (p <0.05). The difference between the pre- and postoperative scores on the mean scores of Beck Depression Scale was also statistically significant (Preop:14.41±10.11, postop: 10.35 ± 10.11; p < 0.05) (Table 2).

**Table 2.** The Rosenberg Self-Esteem and Beck Depression Scale analysis before and after surgery

<b>Preop Postop</b>	
<b>(n=31) (n=31) p</b>	
Mean±SD Mean ±SD	
<b>Rosenberg Self – Esteem Scale</b>	1.36 ± 0.94 1.02 ± 0.63 0.007 p < 0.05
<b>Beck Depression Scale</b>	14.41±10.11 10.35 ± 10.11 0.001 p < 0.05

When the Arizona Sexual Experiences scale was examined, a statistically significant positive effect was observed in all subgroups compared to the preoperative period (Table 3).

**Table 3.** The Arizona Sexual Experiences Scale

<b>Preop postop</b>	
<b>(n=31) (n=31)</b>	
Mean±SD Mean±SD P	
<b>Sexual desire</b>	4.09 ± 1.44 3.35 ± 1.40 0.00 P=0.00
<b>Psychological arousal</b>	3.45 ± 1.31 2.67 ±0.94 0.002 P<0.05
<b>Physiological arousal</b>	3.58±1.08 3.03 ±1.11 0.001 p=0.001
<b>Capacity to reach orgasm</b>	3.61±0.84 3.16±0.82 0.003 p<0.05
<b>Satisfaction after orgasm</b>	3.22±1.05 2.74±1.03 0.014 p <0.05

## DISCUSSION

Breast reduction surgeries are one of the most common operations performed in plastic surgery clinics, and especially after surgery, patients have a very high level of satisfaction both physically and aesthetically. There are some studies showing that breast reduction surgery has a positive effect on women, especially psychologically, but very limited research has been done on sexual function. In our study, postoperative self-esteem, mood and sexual experiences of the patients were evaluated.

Most patients with macromastia are overweight or obese due to the increase in breast volume and it has been reported that this is associated with symptoms such as pain anxiety and depression, which reduce the quality of life as well as aesthetic concerns [11,12]. In our study, the mean BMI of the patients was 30.6 k kg/m<sup>2</sup> and consisted of overweight patients. In a study, conducted by Iwuagwu et al., it was observed that psychological disturbances in macromastia patients with depression and anxiety decreased after reduction operations. After the reduction operation, the need for psychiatric medication in these patients decreased significantly [13].

Meltem et al. found that reduction mammaplasty had a favorable effect on the self-esteem, body image perception, depression, and anxiety but had no impact on sexual satisfaction of the patients. They evaluated Rosenberg Self-Esteem, Beck Depression and Beck Anxiety Scale scores before and after the surgery. However,

they used the Golombok Rust Sexual Satisfaction Scale for sexual life analysis and they could not find a significant difference on sexual function after breast reduction surgery [14]. In a study conducted by Neto et al., Roland Morris Scale was used in addition to the Rosenberg Self-Esteem Scale and positive effects were found on both self-esteem and functional capacity of the patient [15].

In our study, we also used the Rosenberg Self-Esteem Scale and Beck Depression Scale to evaluate the preoperative and postoperative results. The Rosenberg Self-Esteem Scale showed a significant decrease in the scores of the patients compared to the preoperative period, and it was found that the self-esteem of the patients increased postoperatively. Similarly, when the Beck Depression Scale was evaluated, a statistically significant positive effect was observed on the emotional states of the patients.

Sexuality, which is defined as a special life that is determined by social rules, value judgments and taboos has biological, psychological and social aspects [16]. Body perception is the picture in the mind of the individual's body and all the sensations of the body. When a person experiences any form and function disorder related to her appearance, she experiences a conflict between her current perception of her body and what she envisions and may cause inadequacy and problems in sense of sexual pleasure and satisfaction. Hence, it is important to investigate any underlying disorders or contributing biopsychosocial factors when evaluating a patient with sexual problems.

Cerovac et al. investigated the sexual function in 90 patients who have undergone breast reduction surgery and they found a positive effect in 28% of patients, no difference in 53% of patients, and a negative effect in 19% of patients [17]. Romeo et al. compared the control group and patients who underwent breast reduction and did not report statistically significant difference between the two groups. However, preoperative sexual function evaluation was not performed in their studies [18].

Sir et al. analyzed by using the Female Sexual Function Index for sexual function assessment before and at the 6th month after surgery and found that sexual dysfunction decreased due to macromastia. They thought that this was due to

the improvement of the patient's body image. On the contrary, they emphasized that the erectile function and relationship satisfaction of the patient's partner decreased and this was probably due to psychological effects [19].

In our study, the sexual life of the patients was evaluated with the Arizona Sexual Experiences Scale before and after the surgery. In a study evaluating sexual satisfaction with the Golombok Rust Scale, no significant difference was found before and after surgery [12]. They also evaluated the subgroups such as sexual desire and sexual satisfaction and they did not detect significant difference contrary to what was expected. However, we found a statistically significant difference in all subgroups of the scale (sexual desire, psychological arousal, physiological arousal, capacity to reach orgasm, satisfaction after orgasm) in our study. This showed that the sexual life is positively affected after breast reduction surgery.

Our study has some limitations. Firstly, the low number of subjects and the absence of a control group can reduce the interpretation power of the results. On the other hand, it is inevitable that self-reported scales include differences from the clinician's observation.

## CONCLUSIONS

As a result, by breast reduction surgery, the patient's breast tissue is given a better form physiologically and that makes a positive effect on the emotional states of the patients and also increases the self-confidence of them. On the other hand, it has a positive effect on sexual life by making a positive effect on sexual functions.

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