

Prevalence and Desire for Body Contouring Surgery in Postbariatric Patients in Saudi Arabia

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Abstract

Background: Morbid obesity has become a common problem worldwide and as a result the demand for bariatric surgery has increased as well. Most patients develop skin redundancy and sagging at many body parts after major weight loss procedures which increased the demand for body contouring procedures. **Aims:** The study was to address the prevalence and patient's desire for body contouring procedures. **Materials and Methods:** A cross-sectional study targeting the postbariatric patients from April 2011 to October 2011 was conducted at our hospital. Questionnaire was administered in order to measure frequency and patients desire to undergo body contouring surgery after massive weight loss. **Results:** The total number of patients was 128 patients. The mean age of our patients was 37-year old (range 18-56 year). The percentage of the desire for body contouring surgery after bariatric surgery was 78.1%. There was very pronounced desire to body contouring surgery after those who underwent gastric bypass surgery with P -value 0.001. Only 18 patients (14%) have underwent body contouring surgery, with a total of 29 procedures, in which abdominoplasty considered the most commonly procedure performed (57%). **Conclusion:** With the increasing number of weight loss surgery, there is higher number of patients that desire a body contouring surgery, which create huge disparity between demand and accessibility.

Keywords: Bariatric surgery, Body contouring surgery, Weight loss

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Introduction

Over the last few decades, morbid obesity has become a global epidemic and the fifth leading cause of the death with approximately more than one-tenth of the world's adult population considered to be obese, and 2.8 million deaths each year attributed to obesity and overweight.^[1] It is highly preventable through healthier food selection and the implementation of regular physical activity. However, the increased demand for weight loss and the advances in bariatric surgical procedures and techniques are more appealing as the method of choice for treatment.^[2-4]

In the course of achieving significant weight loss,

bariatric procedures are expected to reduce the risks and comorbidities associated with obesity such as diabetes, hypertension, heart disease, stroke, arthritis, and sleep apnea. Nevertheless, as result of the rapid weight loss associated with this intervention, patients are more liable to have sagging and hanging skin which patients consider cosmetically unacceptable.^[5,6] In addition, after massive weight loss many patients experience potential irritating rash, infection, ulceration, functional limitation, hygiene issues, loss of skin elasticity and redundant hanging skin specifically in the abdomen, neck, breasts, arms, back, and thighs. All of these idiosyncrasies may be reflected in patient satisfaction levels, their psychological status regarding appearance and potentially lead to the performance of body contouring procedures.^[6,7] Postbariatric body contouring (BC) procedures impact on the patients quality of life, self-image satisfaction, and improve the functional impairment resulted by the hanging skin on daily activity is well documented.^[7-9]

According to the statistics provided by American Society of Plastic Surgeons (ASPS) approximately 52 603

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body contouring procedures were done post bariatric procedures in 2010. Abdominoplasty was by far the most common body contouring procedure performed, followed by breast lift, thigh lift then lower body lift.^[10-12] However, little literature has addressed the frequency by which patients seek body contouring surgery after weight loss surgery. The aim of the current study is to address the prevalence and patients desire for body contouring procedures after weight loss surgery in Saudi Arabia as related to age, gender, and body mass index (BMI).

Materials and Methods

A cross-sectional study was conducted from April 2011 to October 2011 using a self-administrated questionnaire at King Abdulaziz University Hospital in Jeddah, Saudi Arabia. The hospital is the only university teaching hospital in the western region of Saudi Arabia, and one of four tertiary hospitals in Jeddah with a capacity of 754 beds. The population in Jeddah approximates three millions and half peoples

A purposive sampling method was applied and patients were selected at the clinic, and included all patients that have underwent a sleeve gastrectomy, or gastric bypass or gastric banding procedures within a follow-up period of 1 year and more. Patients with follow up periods of less than 1 year and uncompleted questionnaire were excluded from the study. We used Kitzinger *et al.*, postbariatric questionnaire measuring postbariatric frequency and patients desire to further undergo body contouring surgery.^[13]

This questionnaire included three sections and took approximately 10-15 min to complete, and focused primarily on level of satisfaction after weight loss surgery in the form of five points Likert scale as well as cosmetic and body contouring concerns that aroused postbariatric surgery. The first section about demographic data of the patients as age, sex, educational level, current status, social status, height, current weight, and highest weight. The second section of questionnaire involved information regarding the type of bariatric procedure and postoperative satisfaction using five responses from "strongly agree" to strongly disagree" in the form of a Likert scale of items. The third section involved questions regarding the desire to perform body contouring surgery using five responses from "very pronounced" to "Not existent" in the form of a Likert scale of items, and if a body contouring operation has been performed after weight loss.

Statistics study

The data were entered and analyzed using the statistical package for social science (SPSS Inc, Chicago, IL, USA),

version 16.00. The study was approved by the ethical review committee within the surgical department at King Abdulaziz University.

Results

This study reported data on 128 individuals out of (152) who had underwent gastric sleeve surgery, or gastric bypass surgery or gastric banding from April 2007 to October 2010 with a follow up of at least 1 year within the institute. The response rate was 84.2%, with the majority of the participants being female (51%), and single (51.6%). In addition, the mean age of participant was 37 (SD±8.92) years and ranging from 18 to 56-year old, the preoperative BMI ranged from 35 to 72 kg/m² (mean 57 kg/m²). The median percentage of weight of excess weight loss at one year in gastric banding group was 52%, in gastric sleeve was 61% and 68% in gastric bypass group. The majority of patients underwent gastric banding 54 (42.2%) followed by gastric bypass 38 (29.7%) then gastric sleeve 36 (28.1%). Demographic data are shown in Table 1.

Of all patients, 114 (89.2%) were suffering from hanging and sagging skin after weight loss and 106 (82.8%) were aware of this problem before weight loss surgery. When

Table 1: Demonstration of patient's demographic data

Patient's data	Male n=26	Female n=102	Total n=128
Mean of age (years)	32.61 (SD±8.301)	37.43 (SD±8.88)	37 (SD±8.92)
Level of education			
Intermediate school	2 (7.7)	2 (2.1)	4 (3.1)
Secondary high school	6 (23.1)	22 (21.6)	28 (21.9)
University	18 (69.2)	72 (70.6)	90 (70.3)
Diploma	0 (0)	6 (5.9)	6 (4.7)
Current employment			
In education	4 (15.4)	10 (4.8)	14 (10.9)
Employed	20 (76.9)	54 (54.9)	76 (59.4)
Unemployed	2 (7.7)	8 (7.8)	10 (7.8)
House wives	0 (0)	26 (25.5)	26 (20.3)
Marital status			
Single	14 (53.8)	52 (51)	66 (51.6)
Married	10 (38.5)	36 (35.3)	46 (35.9)
Divorced	2 (7.7)	14 (13.7)	16 (12.5)
Prebariatric data	Mean	Range	
Height	161 cm	148 to 177 cm	
Weight	150 kg	82 to 220 kg	
BMI	57 kg/m ²	35 to 72 kg/m ²	
Postbariatric surgery	No. of patients	Median percentage of excess weight loss	
Gastric banding	54	52	
Sleeve gastrectomy	36	61	
Gastric bypass	38	68	
Total	128	-	

BMI: Body mass index; Figures in parenthesis are in percentage

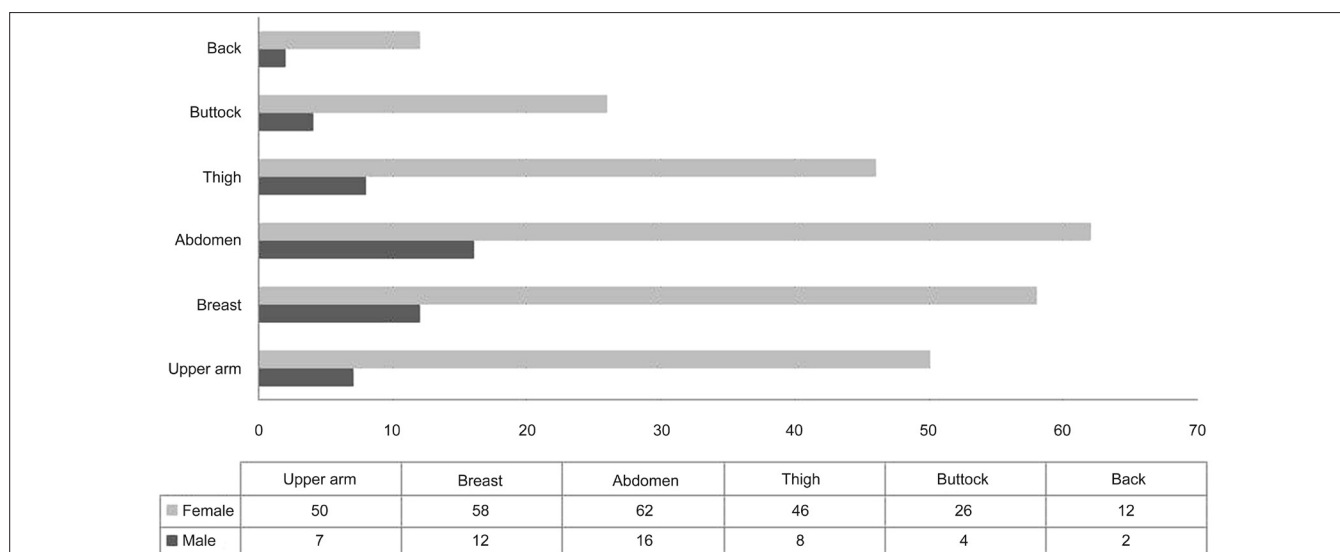


Figure 1: The areas which are desired for body contouring surgery. Abdomen is the most area of concern followed by breast

they were asked if they had any trouble with rashes or sores under redundant skin, 36 (28.2%) suffer from these symptoms. Whereas 34 (26.5%) and 44 (34.4) subjects complained of difficulty of fitting into clothes and difficulty of exercising because of loose skin, respectively.

Regarding patients knowledge toward body contouring surgeries, 110 (85.9%) have knowledge regarding abdominoplasty, breast reduction (68.8%), thigh lift (67.2%), arm lift (59.4%), gluteal lift (54.4%), and 38 (59.4%) subjects require additional information about the procedures.

When subjects were asked to rate their appearance after weight loss surgery and before any plastic surgery on a Likert scale from 1 to 5, in which 1 is very attractive and 5 is very unattractive. Majority of subjects tended to rate their appearance with 3 (not satisfied), arm (50%), breast (42.2%), abdomen (45.3%) and thigh (37.4%) were not satisfied of their appearance after bariatric surgery.

The most common area of concern to body contouring surgery was the abdomen (61%) followed by breast and arm. These data are illustrated in Figure 1.

Highest number of those who had very pronounced desire to body contouring surgery were post gastric bypass patients (61%) and highest number of those who had pronounced desire to BC were post gastric banding (69.2%) while (42.8%) had no existed desire to BC were post sleeve gastrectomy with *P*-value 0.001 [Figure 2].

Of all participants, only 18 (14%) female patients reported having underwent a total of 29 body contouring procedures after bariatric surgery. The most common procedure had been abdominoplasty 16 (55.17%).

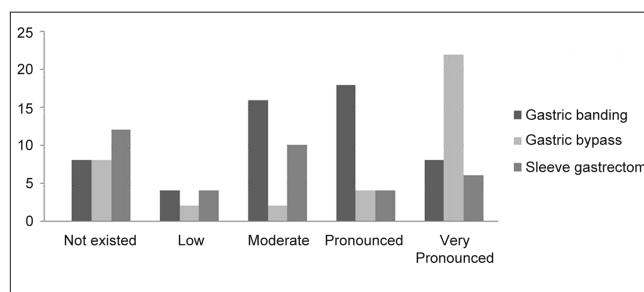


Figure 2: Participants desires toward body contouring surgery after different types of bariatric surgeries. A very pronounced desire to body contouring surgery after those who underwent gastric bypass with *P*-value 0.001

Table 2: Body contouring (BC) surgeries after weight loss surgery. Only female patients were underwent BC surgeries

Body contouring surgery	Female (%)
Total patients underwent body contouring surgery	18 (14)
Abdominoplasty	16 (55.17)*
Upper arm lift	4 (13.79)*
Breast lift	4 (13.79)*
Thigh lift	4 (13.79)*
Liposuction	1 (3.44)*
Total procedures	29

*Percentage out of total done procedures

Followed by thigh left, arm left, and breast reduction, 4(13.79%), 4(13.79%) and 4 (13.79%), respectively [Table 2].

Discussion

After bariatric surgery, patients are expecting more stable and better quality of life and most of them are not well

prepared to the sequel of massive weight loss which may lead to disturbance in quality of life and the risk of regain weights.^[14,15] Body contouring surgery is considered as cosmetic adjunct to bariatric surgery which lead to more stable lifestyle and documentable improvement in quality of life.

Our study showed that 15% of all patients had undergone body contouring surgery. In contrast to the finding of Kitzinger *et al.*,^[13,15] who reported that 21% did undergo body contouring surgery. While, Mitchell *et al.*,^[16] reported in their study 33 of 70 patients (47%) did receive a body contouring procedure after bypass. Small percentage 11.3% of 926 patients who received plastic surgery after gastric bypass, reported by Gusenoff *et al.*^[17]

As expected that majority of postbariatric surgery patients desire a body contouring procedures especially in area like abdomen and breast. We found in our study, 80.4% of all female and 69.2% of all male with the total 78.1% of all subjects desire for body contouring procedure. Comparing to those who have done (14%) there is a huge disparity between those who have a desire to procedures and those who actually did it. The same point has been reported by Kitzinger *et al.*,^[13,17] Mitchell *et al.*,^[16,17] and Gusenoff *et al.*,^[17] with desire for body contouring. The last two authors attributed that discrepancy to the fact that that BC surgeries are not covered by third party payors in the United States and most of them cannot afford the cost of the surgery. While Kitzinger *et al.*, stated that in Austria it is allowed to perform one BC surgery which is covered by public insurance. Therefore, other than the cost, other causes of that discrepancy should be addressed like the fear of complication, or little knowledge about BC surgery. In Saudi Arabia, we think that discrepancy between the numbers of the patients and the numbers of plastic surgeons in the governmental hospitals and the cost of the procedures in private centers is the most important factor for the high inequality between the desire to BC and the performed procedures. Followed by the fear from complication (in our study 57.8% of total subject) and the low level of knowledge or misunderstanding of different aspect of BC surgery.

Many bariatric surgeon do not believe in the importance of body contouring surgery after massive weight loss, mainly focusing on decreasing the weight and to improve comorbidities. In fact, the BC surgery has cosmetic outcome which lead to significant improvement in psychological aspect and quality of life of patients. In addition, decreasing in some skin symptoms like rashes, itching, sores and skin breakdown.^[18] With results of our study, we aim to make body contouring surgery's referral as part of post-bariatric surgery patients follow up plans and part of the governmental hospital coverage

management. It is interesting to find that 85.9% said that they knew about BC surgery before. However, 59.4% wanted to know more about the surgery. Therefore, bariatric surgeons should increase the awareness toward BC surgery or refer the patients for plastic surgeons' consultations.

Despite the small sample size of our study, it provides initial evidence about the prevalence of and desire to body contouring procedures after bariatric surgery in Saudi Arabia, as we have a limited studies in our area describing this topic. With all positive results that our study has revealed, it has some limitation. The small sample size due to poor response rate and difficult communication with those who has done bariatric surgery many years ago. Better sample randomization may further eliminate bias. Further study is recommended to address the causes of low prevalence of the body contouring surgery in relation to high desire to it.

In conclusion, our data showed that female desire to have BC surgery is higher than male. Abdominoplasty is the most common BC procedure done and desired after bariatric surgery. There is a huge disparity between those who desire BC surgery and who actually received it.

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