

# Perception of Body Image and Biopsychosocial Satisfaction of Obese People after Bariatric Surgery

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**Abstract Background:** Obesity is a worldwide health problem, affecting both developed and developing countries. It may necessitate bariatric surgery. Excessive weight loss following the bariatric surgery may result in an excess of lax, overstretched skin mainly over the abdomen that may lead to overhanging of the abdominal skin causing physical discomfort that may negatively affecting the body image' perception and bio-psycho-social well-being of the patients. **Objectives:** The study was conducted to examine the effect of abdominoplasty following bariatric surgery on the bio-psycho-social well-being and patient satisfaction. **Methods:** Body image perception and patient satisfaction of a sample of 52 obese patients subjected to abdominoplasty following bariatric surgery (20 laparoscopic gastric plications and 32 laparoscopic sleeve gastrectomy) were measured by the Obesity Psychological State and Satisfaction Questionnaires. The mean age of participants was 39-year old (range19-55year). **Results:** Post-bariatric abdominoplasty resulted in a significant improvement of patient satisfaction at a mean interval of 24 months between weight loss and abdominoplasty procedure. **Conclusions:** This study showed that post bariatric abdominoplasty as a single body contouring procedure results in a significant improvement in overall body image' perception, self-esteem, and self-concept. Post-bariatric abdominoplasty should be incorporated in a multidisciplinary care program following weight loss surgery in the morbidly obese patients. These improvements are most consistent with weight loss and subsequent sequelae.

**Keywords:** quality, body image, bariatric surgery

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## 1. Introduction

Obesity is a worldwide disease, affecting both developed and developing countries [1]. Obesity, as defined by a body mass index (BMI) > 30 kg/m<sup>2</sup> is a chronic disorder that is increasing in prevalence in adults, adolescents, and children. It has been described by the World Health Organization as a global epidemic. Obesity is a significant risk factor for numerous comorbidities including dyslipidemia, atherosclerosis, hypertension, heart disease, diabetes, stroke and specific types of cancer [2]. It is also associated with overall increased mortality and decrease in lifespan by ten years [3]. Bariatric surgery has shown an effect in providing a substantial, durable weight loss and reduction of its comorbidities [2]. On the contrary, one side effect is represented by hanging and redundant skin, responsible for medical complications, functional limitations and consequent psychological disturbances [3]. The contour deformities are unpredictable that can take place anywhere on the body [4]. Patients' dissatisfaction motivates 74 % of patients to seek body

contouring procedures, but only 21 % undergo at least one such procedure [5].

Plastic surgery offers different solutions to the problems with body contouring procedures; whose demand is dramatically increasing every year. Body contouring is an important step among treatments for the morbidly obese patient, who decides to undergo a series of reconstructive surgical procedures following massive weight loss. The basic principle of body contouring is to tighten the cutaneous tissue to eliminate physical or psychological handicaps linked to the massive amount of excess skin [6].

The results depend on the severity of the skin, fat and muscle laxity. However, plastic surgeries should not be contemplated until the patients' weight after bariatric surgery has reached a plateau, generally by the first two postoperative years [6].

The massive abdominal pannus often is severely disabling for these patients in terms of physical limitations, pain, back strains or rashes. Panniculectomy is better performed with conservative undermining, thereby limiting complications, e.g. seromas formation due to minimal dead space [7].

Body image is a psychological construct which refers to self-concept including self-image and feelings an individual perceives about his or her body. It is strongly distorted in obese people, affecting their quality of life [8].

There are several tests which investigate body image perception, biopsychosocial profile, and satisfaction. Body Attitude Test (BAT) is an internationally widely used self-report questionnaire, already adopted in previous studies evaluating body image perception in bariatric patients [9]. The critical score that determines the boundary between patients and a normal population is established at 36 using Shrout and Fleiss' model [4].

The aim of this study was to provide a psychological evaluation of the bariatric patient in three crucial periods before bariatric surgery, after Bariatric surgery and after abdominoplasty to estimate the beneficial support of abdominoplasty to body image perception in previously obese patients. This is a preliminary study necessitating further researches.

## 2. Patients and Methods

The study was conducted in Al-Menoufia University Hospitals between July 2014 to December 2016. All the patients (52 [37 women (71%) and 15 men (29%)]) who are subjected to bariatric surgeries were included in the study after their formal consent. Their anthropometric measures are reported in Table 2. Twenty-four months

after bariatric surgeries all patients were submitted to abdominoplasty. All participants were invited to completed the Body Attitude Test (BAT) 1 year after bariatric (before plastic surgery) and 6 months after the abdominoplasty (Table 3).

The Body Attitude Test (BAT) consists of 20 items, scored on a six-point scale (0-5), with a stable factor structure: negative appreciation of body size; lack of familiarity with one's own body; general body dissatisfaction. With the exception of the negatively keyed ones (4 and 9), the items are scored ranging from always (5) to never (0). The maximum total score is 100, and the higher it, the more deviating the body experience is.

## 3. Statistical Analysis and Ethical Issues

Statistical analyses were performed using Statistical Package for Social Sciences (SPSS) version 20 under windows using a personal computer. P-values <0.05 were considered to be statistically significant. Characteristics of patients with SD were evaluated using univariate analyses with Analysis of Variance (ANOVA).

Ethical committee approval was obtained prior to study initiation and Informed consent was obtained from all participants included in the study.

## 4. Tables

**Table 1. Socioeconomic characteristics of studied obese patients**

Parameter	Case (52)	
	No	%
Age (mean $\pm$ SD)	39.39 $\pm$ 9.47	
Marital status:		
Married	38	73.1
Divorced	3	5.8
Widow	7	13.5
Single	4	7.7
education:		
Illiterate	35	67.3
Basic	5	9.6
Secondary	7	13.5
University	5	9.6
Socioeconomic score:		
High	36	69.2
Medium	5	9.6
low	11	21.2

**Table 2. Anthropometric characteristics before and after the bariatric procedure as well as after Abdominoplasty**

Parameters	Pre Bariatric surgery	After Bariatric Surgery	After Abdominoplasty
Age (years) means $\pm$ SD	39.39 $\pm$ 9.47	41.53 $\pm$ 8.51	43.01 $\pm$ 8.51
Weight (kg) means $\pm$ SD	139.17 $\pm$ 22.23	91.71 $\pm$ 19.83*	79.21 $\pm$ 17.77
Height (m) means $\pm$ SD	1.54 $\pm$ 0.08	1.54 $\pm$ 0.08	1.54 $\pm$ 0.08
BMI (kg/m <sup>2</sup> ) means $\pm$ SD	51.59 $\pm$ 10.7	29.27 $\pm$ 8.35 *	28.88 $\pm$ 9.01

\*p < 0.0001 between pre-bariatric surgery and Post-bariatric surgery (before plastic surgery).

**Table 3. Total Body Attitude Test (BAT) scores before and after bariatric surgery as well as after abdominoplasty**

Procedure	No. of patients	BAT Before Bariatric Surgery	BAT After Bariatric Surgery	BAT After Abdominoplasty
Abdominoplasty means $\pm$ SD	52 patients	87.2 $\pm$ 5.1	65.2 $\pm$ 3.9	39.2 $\pm$ 3.1*

\*p < 0.01 between pre-bariatric Surgery and Post-abdominoplasty.

## 5. Results and 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 their quality of life and the risk of regaining weights [10].

Body contouring surgery is considered as a cosmetic adjunct to bariatric surgery which leads to more stable lifestyle and documentable improvement in the quality of life.

Many bariatric surgeons 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 bariatric surgery mainly abdominoplasty has a cosmetic outcome which leads to significant improvement in psychological aspect and quality of life of patients in addition to, decreasing in some skin symptoms like rashes, itching, sores and skin breakdown [12].

From the results of our study, we aim to make abdominoplasty as a 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, family physicians and bariatric surgeons should increase the awareness toward BC surgery or refer the patients for plastic surgeons' consultations. Our data showed also that, female desire to have abdominoplasty is higher than male. In this study  $p < 0.0001$  between pre Bariatric surgery and Post Bariatric surgery (before plastic surgery) which is extremely significant and  $p < 0.01$  between pre-bariatric Surgery and post-abdominoplasty which is highly significant.

Self-concept refers to a patient's perception of "self" and includes several important characteristics with respect to the bariatric population: self-esteem, body image, self-confidence, and sense of attractiveness, and assertiveness. Although these factors have not been studied in a standardized or systematic fashion, a review of the literature seems to suggest that weight loss surgery improves self-esteem, self-confidence, and expressiveness [13]. These changes appear to be correlated with major improvements in body image and weight-loss satisfaction after surgery [14]. In a systematic review, residual body image dissatisfaction due to increasing and/or sagging skin has been reported after surgery in as high as 70% of patients in one particular study, even if 90% were pleased with their overall appearance. Patients who reported greater satisfaction after surgery were found to have lost less weight than their dissatisfied counterparts, likely because their "skin problems" were less pronounced. Bariatric surgeons must, therefore, counsel their patients prior to surgery regarding common postoperative skin changes in order to mitigate psychological distress. As patients seek out body-contouring surgery to address skin issues, plastic surgeons also play an important role in discussing the benefits and limitations to plastic surgery [15,16].

## 6. Conclusion

Post-bariatric abdominoplasty as a single body contouring procedure improve the body image and quality of life in the Egyptian patients to a large extent and should be incorporated in the multidisciplinary care plan guided by the family physicians following weight loss surgery in the morbidly obese patients. We can elicit that abdominoplasty as a body contouring procedures following weight loss surgery are effective in improving body experience. In general; out of this preliminary study, despite the small sample size, we can conclude that; most important in massive weight loss is choosing a program, not a procedure.

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