

Attitudes of Morbidly Obese Patients to Weight Loss and Body Image following Bariatric Surgery and Body Contouring

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Background: The authors evaluated body image attitudes in post-obese persons following bariatric surgery who require cosmetic and body contouring operations.

Methods: We studied 20 morbidly obese women prior to biliopancreatic diversion (BPD) (OB group), 20 post-obese women at >2 years following BPD (POST group), 10 post-obese women following BPD who required cosmetic procedures (POST-A group), 10 post-obese women after BPD and subsequent cosmetic surgery (POST-B group), and 20 healthy lean controls. Attitudes to weight and shape were evaluated by means of the *Body Uneasiness Test* (BUT).

Results: In comparison with the obese patients in the POST group, lower BUT scores were observed, while in the POST-A group the values were very similar to those observed in the non-operated obese individuals. In the individuals having received cosmetic surgery, the BUT findings were similar to those recorded in the POST group patients, the values approaching data found in the controls.

Conclusion: Despite a fully satisfactory weight loss and maintenance, the post-BPD individuals requiring aesthetic surgery showed some disparagement of body image; in these subjects, cosmetic and body contouring procedures may actually improve body weight and shape attitudes towards normality.

Key words: Bariatric surgery, body image, body contouring, morbid obesity, obesity, psychology

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Introduction

In developed western culture, a lean body is considered to reflect good self-control, and is regarded as attractive, healthy, efficient, and socially acceptable. Morbidly obese patients disdain their body shape.¹⁻⁴ The weight loss following bariatric surgery is usually accompanied by an improvement in body image, whatever the initial psychological conditions, degree of obesity and eating behavior were, and in the majority of operated subjects these feelings remain at a stable level in the long-term.⁵⁻⁸ In clinical practice, however, in spite of highly satisfactory weight loss and maintenance, some individuals still disparage their body image after bariatric surgery, and seek body contouring procedures in order to improve their physical appearance. Skin and soft tissue redundancy of the trunk, buttocks, breasts, upper arms, and thighs following massive weight loss is considered unsightly, and plastic surgical procedures may be necessary to satisfy patients' needs and restore body image.⁹

The aim of this study was to ascertain if the attitudes to body weight and shape of individuals asking for esthetic surgery after massive weight loss from bariatric surgery are still compromised, and if the plastic surgery procedures are effective in improving body image construct.

Materials and Methods

The *Body Uneasiness Test* (BUT) is a self-administered questionnaire specifically developed to assess concern with physical appearance and body image (part I, 34 items), to evaluate overall body dissatisfaction and to tap the body parts that most severely contribute to body dissatisfaction (part II, 37 items), with scores ranging from *never* to *always* in a 6-point Likert scale (higher scores indicating greater body uneasiness).

BUT part I explores several areas of body-related and shape-related psychopathology; the results are expressed both in a combined Global Severity Index (GSI) and in scores of 5 subscales that have emerged from factorial analysis: weight phobia (WF, fear of being or becoming fat), body image concerns (BIC, over-concern with physical appearance), avoidance (Av, body shape avoidance behaviors), compulsive self-monitoring (CSM, rituals involving checking physical appearance), and depersonalization (Dep, feelings of detachment or estrangement from one's body).

BUT part II indicates dissatisfaction for the overall body shape and for the different parts of the one's body, and the scores of part II are arranged into a Positive Symptom Total (BUT-PST, the number of one's body parts that are disliked) and into a Positive Index Distress Symptom (BUT-PIDS, the strength of one's body dislike).

In large studies carried out in Italian obese subjects. BUT Global Score and BUT subscale scores showed acceptable internal consistency and a fully satisfactory test-retest reliability.^{10,11}

The present study was carried out in the following groups of individuals: *OB group*: 20 consecutive morbidly obese women undergoing biliopancreatic diversion (BPD) for obesity (12); *POST group*: 20 consecutive women after BPD selected at the routine second-year follow-up visit; *POST-A group*, 10 women at >2 years after BPD that asked for cosmetic surgery; *POST-B group*: 10 women at >2 years following BPD that had been submitted to cosmetic surgery >1 year (13-22 months) before the study. In the later subjects (POST-B), 5 mastoplasties, 7 abdominoplasties, 8 leg and/or arm-lifts and 2 torsoplasties had been performed. Before BPD, the obese patients in this study were free from any severe metabolic or structural complication of obesity; all postoperative individuals had a stable body weight since >1 year, leading a normal life in fully satisfactory nutritional conditions. As a rule, the post-BPD subjects are not induced to esthetic surgery, and therefore the POST-A and POST-B women sought cosmetic or body contouring procedures in full autonomy. The women of POST-B group underwent one or more cosmetic surgery operations, and in all cases the procedures were not followed by severe complications.

Age range, body weight (BW, kg) and body mass index (BMI, kg/m²) are shown in Table 1. The questionnaires were filled autonomously at the first bariatric or cosmetic surgery visit (OB and POST-A groups, respectively) and at the time of the regular follow-up visit (POST and POST-B groups, respectively). Because of the small number of cases, statistical analyses were carried out by non-parametric procedures: the differences between means were assessed by the U-Mann Whitney rank test for inde-

Table 1. Anthropometric and demographic data of the subjects (mean \pm SD)

| | OB | POST | POST-A | POST-B |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|
| Age (range) (yrs) | 24-55 | 24-58 | 31-53 | 28-56 |
| Actual BW (kg) | 135 \pm 34 | 89 \pm 14 | 79 \pm 19 | 76 \pm 12 |
| Actual BMI (kg/m ²) | 48.0 \pm 10.1 | 31.2 \pm 4.5 | 28.6 \pm 3.2 | 28.2 \pm 1.7 |
| Preop BW (kg) | | 130 \pm 18 | 127 \pm 22 | 125 \pm 28 |
| Preop BMI (kg/m ²) | | 45.9 \pm 12.8 | 45.4 \pm 12.6 | 44.8 \pm 10.2 |
| Time after BPD (mons) | | 36 \pm 9 | 36 \pm 5 | 38 \pm 12 |

BW = body weight; BMI = body mass index. OB group = obese women; POST group = post-obese women at >2 years after BPD; POST-A group = post-obese women at >2 years after BPD requesting cosmetic surgery; POST-B group = post-obese women at >2 years after BPD who have undergone cosmetic surgery >1 year earlier.

pendent comparisons, and the relationships between data by the Spearman correlation test. Calculations were carried out by the Stat-View version 5.0.1 (SAS Institute Inc., Cary, NC).

Results

In the obese patients, BW and BMI values were obviously higher, whereas all groups of the operated individuals showed substantially similar preoperative and actual BW and BMI mean levels (Table 1). The BUT global and subscale scores mean values are shown in Table 2. For all the BUT subscale scores, the post-obese individuals (POST group) showed markedly lower mean score values than the obese

patients, except for the “avoidance” and the “compulsive self-monitoring” scales (Tables 2 and 3). Moreover, in the post-obese individuals who requested body contouring procedures (POST-A group), the BUT score values assessing both body uneasiness and body dissatisfaction were substantially similar to those recorded in the obese patients and higher than those observed in the post-obese subjects who did not request cosmetic surgery (POST group). Finally, in the post-obese subjects after cosmetic surgery (POST-B group), the mean score values of all BUT subscales assessing body uneasiness were essentially similar to those observed in the subjects submitted to BPD who did not request cosmetic surgery (Tables 2 and 3).

In comparison to the obese patients prior to BPD, the post-obese subjects who had undergone both bariatric

Table 2. BUT score data in the subjects of this study (mean ± SD)

| | OB | POST | POST-A | POST-B |
|-----------------------------------|-------------|-------------|-------------|-------------|
| Global severity index | 2.19 ± 1.13 | 1.37 ± 1.07 | 1.68 ± 1.13 | 1.04 ± 0.63 |
| Weight phobia | 2.53 ± 1.12 | 1.88 ± 1.30 | 2.31 ± 1.41 | 1.80 ± .88 |
| Body image concern | 2.86 ± 1.36 | 1.56 ± 1.31 | 2.23 ± 1.54 | 1.28 ± .72 |
| Avoidance | 1.95 ± 1.49 | 1.03 ± 1.35 | 1.07 ± 1.1 | 0.35 ± 0.55 |
| Compulsive self-monitoring | 1.38 ± 1.15 | 1.0 ± 0.6 | 1.02 ± 0.64 | 1.09 ± 0.79 |
| Depersonalization | 1.61 ± 1.42 | 1.04 ± 1.09 | 1.09 ± 0.91 | 0.46 ± 0.56 |
| Positive symptoms total | 10.7 ± 6.02 | 7.29 ± 5.33 | 10.7 ± 7.01 | 10.1 ± 9.30 |
| Positive index distress | 4.03 ± 0.62 | 3.38 ± 1.50 | 4.1 ± 0.81 | 4.07 ± 1.37 |

BW = body weight; BMI = body mass index. OB group = obese women; POST group = post-obese women at >2 years after BPD; POST-A group = post-obese women at >2 years after BPD requesting cosmetic surgery; POST-B group = post-obese women at >2 years after BPD who have undergone cosmetic surgery >1 year earlier.

Table 3. Statistical significance of BUT scores between groups of subjects (U-Mann Whitney test for independent comparisons)

| | OB vs POST | OB vs POST-A | OB vs POST-B |
|-----------------------------------|-----------------|--------------|-----------------|
| Global severity index | <i>P</i> <0.022 | ns | <i>P</i> <0.01 |
| Weight phobia | <i>P</i> <0.05 | ns | ns |
| Body image concern | <i>P</i> <0.002 | ns | <i>P</i> <0.004 |
| Avoidance | ns | ns | <i>P</i> <0.01 |
| Compulsive self-monitoring | ns | ns | ns |
| Depersonalization | <i>P</i> <0.001 | ns | ns |
| Positive symptoms total | <i>P</i> <0.05 | ns | ns |
| Positive index distress | <i>P</i> <0.05 | ns | ns |

BW = body weight; BMI = body mass index. OB group = obese women; POST group = post-obese women at >2 years after BPD; POST-A group = post-obese women at >2 years after BPD requesting cosmetic surgery; POST-B group = post-obese women at >2 years after BPD who have undergone cosmetic surgery >1 year earlier.

surgery and body contouring procedures (POST-B group) showed lower values in the BUT scores assessing body uneasiness, while in the two groups the “PST” and “PID” values were very similar (Table 2).

In all groups, the body uneasiness was completely unrelated to BMI values. The “global body uneasiness score” was positively related to the parameters of body dissatisfaction within the obese patients ($R^2 = 0.674$, $P < 0.003$ for PST and $R^2 = 0.412$, $P < 0.05$ for PID) and within the post-obese subjects ($R^2 = 0.817$, $P < 0.001$ for PST and $R^2 = 0.434$, $P < 0.05$ for PID), while between these data no relationships were observed in the patients belonging the POST-A and POST-B groups.

Discussion

In the western developed countries, morbid obesity is usually accompanied by profound impairment of the body image construct and by the presence of severe psychological problems concerning body weight and body shape. These alterations are well detected by the BUT, which in Italian subjects appears to be a reliable and appropriate psychometric instrument to differentiate the true dislike and dissatisfaction with the whole body and with its different parts, and the concern with physical appearance, the body image awareness and the presence of body shape related disordered behaviors.¹¹⁻¹³

In the obese patients, all the BUT subscale scores were markedly higher than the standard data observed in the general Italian population.¹¹ The BUT scores were also greater than those obtained in other groups of obese patients, most likely because of the higher degree of obesity in the individuals in this investigation.¹¹ In the subjects at long-term following BPD with a steadily reduced body weight >2 years, the BUT scores were markedly lower than those observed in severely obese patients prior to BPD. In accordance with the literature, this finding strongly suggests that the surgically obtained weight loss is accompanied by a marked improvement in the attitudes towards body weight and shape, and by a substantial normalization of the body image.^{2,7} As a rule, following stable weight loss, the post-obese subjects are highly satisfied with the new lean body shape, and their quality of life markedly improves both for a socially-accepted somatic morphology

and for an improved mobility.¹⁴⁻¹⁶ It can be concluded that in post-obese individuals, bodily consciousness and physical self-efficacy increase with the weight loss, and such improvement could gradually lead to cessation of the distressing and pathological body-related behaviors. This is well documented by the BUT findings: in fact in the postoperative individuals (POST group), the BUT scores were sharply lower than those observed in obese patients before BPD. This result further confirms that attitudes to the alterations of body weight and shape commonly observed in severely obese patients must be accounted for by the excess body mass itself, and that in the obese state, the body image derangement is not a consequence of specific psychopathological features and/or the individual’s personality traits.

By contrast, in the post-obese patients who request cosmetic or body contouring procedures following BPD, the BUT scores are essentially similar to those observed in the obese patients despite a steadily reduced BW, thus suggesting still compromised body weight and shape attitudes: although body weight was nearly in the normal range and markedly reduced in comparison to the preoperative level, these individuals showed a still higher degree of body uneasiness and greater body dissatisfaction compared to their counterparts who did not request esthetic procedures.

Both in the obese patients and in the post-obese individuals not requesting cosmetic surgery, the body and shape related distress was positively related to the BUT subscale scores. This indicated dissatisfaction with the overall body shape and/or with different parts of the one’s body, suggesting a well-motivated discontent with one’s own body morphology because of the excess body mass. In other words, in these cases the psychological distress towards one’s own somatic morphology appears to be related to a precise and specific body condition. On the contrary, in the post-obese subjects who requested esthetic surgery, such an association appears to be completely lacking. This suggests that in the post-obese subjects asking for cosmetic procedures following bariatric surgery, the body uneasiness and dissatisfaction are substantially due to factors not directly related to the actual body weight and somatic morphology, and the residual body image disparagement could reflect some form of psychological distress which is independent of obesity. In fact, in the individuals who underwent

aesthetic surgery, the dislike toward some specific parts of the body and the subjective intensity of this negative feeling were very similar to that recorded in their counterpart requesting but not yet submitted to esthetic surgery and to that of the morbidly obese patients before surgically-induced weight loss. Therefore, it appears that the body disappointment and dissatisfaction reported by some patients after surgically-induced weight loss has to be accounted for more by inner feelings than by real anatomical conditions. This fact explains the discrepancies between the subjective satisfaction of the patients and the judgment of the plastic surgeons.^{17,19}

However, in the post-obese individuals after cosmetic and body contouring procedures, the overall acceptance of body shape was very similar to that observed in the post-obese subjects after satisfactory weight loss. They showed sharply lower body uneasiness than both the obese patients and the post-obese individuals seeking esthetic surgery. Therefore, it could be hypothesized that in post-obese individuals dissatisfied with body and/or with body parts, cosmetic body contouring procedures may improve body image awareness and physical self-efficacy, but without necessarily affecting body satisfaction.

The data obtained in cross-sectional studies have to be regarded with caution: the phenomenon herein presented could be simply a chance finding, and one cannot exclude that body uneasiness might show a therapeutically-induced reduction in the long-term. With these caveats, the results of this investigation lead to the hypothesis that body contouring could directly influence body easiness, promoting an improvement in the relationships between inner feelings and external physical morphology that overtake the expected satisfaction with one's somatic morphology and with the different body parts. In other words, a post-obese patient who undergoes cosmetic surgery to improve physical appearance actually makes a progressive and positive individual choice that might improve the person's sense of self-efficacy and of general well-being, even if the local results of the operation are not fully rewarding and satisfying. Therefore, in post-obese subjects who have lost weight after bariatric surgery, aesthetic operations could have very complex and still unknown psychological meanings.

In conclusion, the data of this study confirm that in morbidly obese patients, surgically-induced weight loss is usually accompanied by a not therapeutically-

induced improvement of the individual attitudes towards body weight and shape. In contrast, in post-obese individuals seeking cosmetic surgery, body uneasiness and dissatisfaction are similar to those of morbidly obese patients, suggesting that in these cases the body image construct has remained unaffected in spite of stable weight loss. In post-obese subjects, the effects of cosmetic and body contouring procedures are multifaceted, and still unidentified psychological implications are present: a good physical and psychological outcome needs the collaboration of the plastic surgeon and the clinical psychologist.

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