



Quality of Life, Self-Esteem and Satisfaction after Abdominoplasty

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Abstract:

Original Research

Background: This study aims to evaluate the changes in self-esteem and quality of life in patients undergoing abdominoplasty in our ward, as well as their satisfaction. Thus, a prospective examination of pre- and postoperative. **Patients and Methods:** A prospective monocentric study was conducted in patients operated on for abdominoplasty between 2019 and 2021 at the Plastic Surgery Department of the Military Hospital Oued Dahab. 118 patients agreed to participate in the study that included questionnaires and clinical examination preoperatively (T1), one month after the surgery (T2) and a 6 months follow-up evaluation (T3). The testing instrument included a standardized self-assessment test on satisfaction and quality of life (QLI-3), Rosenberg score for self-esteem assessment and Body Q index (including the abdominal, body, body image, silhouette surgery scar and sexual function questionnaires). Further, a postoperative complication questionnaire during the six months after the surgery. Statistical analysis was processed on Jamovi 2.3.18. **Results:** Our series was made of 118 patients: 116 were women and 2 were men. The average age was 41.5 years. The preoperative mean body mass index was 29.1 kg/m², and mean postoperative body mass index was 27 kg/m². 11 patients had minor complications: postoperative abdominal venous congestion (6,77%), unsightly scars (4.23%), seroma (1.69%) and hematoma (0.84%). Quality of life mean scores went from 139 preoperatively to 175 after six months. The Rosenberg self-esteem score also increased from 35.1 on average to 37.2 six months after the procedure. Body Q scores evaluating the body, abdomen, body image and sexual function all increased, going from 33.1 to 69.2, 29.1 to 94.4, 34.3 to 85.2, 49.9 to 79.7; respectively. The scar score at six months postoperatively was 70.8. **Conclusion:** Abdominoplasty seems to positively affect different dimensions of the life of the patients who undergo it. We studied the self-image of the subjects after abdominoplasty, their self-esteem and quality of life. These parameters all showed an improvement after the procedure. However, the occurrence of complications influenced certain aspects of the body image. Thus, the indications for abdominoplasty should be closely linked to certain psychological dimensions of the patients. **Keywords:** Abdominoplasty, Quality of Life, Self-Esteem, Body Image, Patient Satisfaction.

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INTRODUCTION

Abdominoplasty is a commonly performed procedure aimed at aesthetic improvement of the abdominal wall layers [1]. While this elective surgery is concretely driven by the aesthetic and functional concerns of patients, it's also motivated by their quest for mental and emotional well-being [2].

These motives seem to condition the quality of life which is a complex concept

gathering several physical, psychological and social components. The WHO defined it in 1993 as: "An individual's perception of his or her place in life, in the context of the culture and value system in which he or she lives, in relation to his or her goals, expectations, norms and concerns" [3]. The same can be said of self-esteem, which is defined as one's judgment or evaluation of oneself and one's self-worth. In fact, the link between dissatisfaction with

physical appearance and low self-esteem has been demonstrated [4, 5].

We conducted this prospective longitudinal study in the Plastic Surgery Department of Oued Eddahab Military Hospital in Agadir over a period of three years, in order to evaluate the impact of abdominoplasty on the patients' experience. We studied their quality of life, self-esteem, and their satisfaction before and after abdominoplasty by highlighting the different factors that influence them.

Patients and Methods

In collaboration with the Psychiatry Department of University Hospital Center Souss-Massa, a form was proposed for our patients, containing scores and scales to assess their satisfaction, self esteem and quality of life.

We obtained a license to use the Body Questionnaire (BQ) recommended as the most appropriate instrument for measuring quality of life in body contouring surgeries because of its strong psychometric properties. The BQ contains several questionnaires that investigate appearance, health-related quality of life, dietary concerns, and overall healthcare experience [6]. We used three tests studying appearance, namely scales studying the abdomen, body, and surgery scar, and two others studying health-related quality of life (Body image and sexual function scales). Each scale has between four and 10 items. Items are scored on a Likert scale from 1 (e.g., very dissatisfied) to 4 (e.g., very satisfied). The summed raw scores in a scale are transformed to scores between 0 and 100 using Rasch converted scoring tables, higher scores indicate a better outcome.

To assess the quality of life of our patients, we used the Quality of life Index (QLI-3) which is a generic measurement instrument that produces five scores: Overall quality of life and in four domains (health and functioning ,psychological /spiritual domain, social and economic domain and family) [8].

We also used the Rosenberg Self-Esteem Scale, which is the most widely used in psychological research to measure overall levels of self-esteem. The questionnaire consists of 10

items, 5 of which assess positive self-esteem and 5 negative self-esteem. Four answers correspond to each item ranging from: "very incorrect", "incorrect", "correct", to "completely correct", noted from 1 to 4, so the total score varies between 10 and 40. A total score below 30 indicates low self-esteem [6].

The data collection was done on several steps:

- During preoperative consultations (T1): by collecting clinical data and patient responses to QLI-3, Rosenberg score, and the BQ (belly, body, body image, and sexual function).
- 1 month after the procedure (T2): during the postoperative check-up, we collected the postoperative weights and the patients' responses to the QLI-3 and Rosenberg scores.
- Then six months after the operation: by telephone, we collected the answers to the QLI-3, Rosenberg and body- Q index scores (abdomen, body, body image, scarring from body contouring surgery and sexual function).
- Complications were studied during the 6-month postoperative consultations.
- Data entry and statistical analysis was performed on the Jamovi software 2.3.18.

RESULTS

Patient Characteristics

Our series was made of 118 patients: 116 were women and 2 were men. The average age was 41.5 years with ages ranging from 25 years to 69 years.

43 patients had pre existing medical history: the most frequent were diabetes (13 patients) and hypertension (7 patients). 10 patients were active smokers.

As for surgical history, the most frequent were abdominal surgery (91 patients), followed by plastic and reconstructive surgery (7) and breast surgery (5 patients).

All patients were instructed to stop smoking, drinking and switch from hormonal contraceptives to physical ones at least one month before their operation as well as

avoiding traveling by planes for at least 48 hours before and after the surgery. Stabilization of any pre existing illness was also sought.

Preoperatively, the mean body mass index was 29.1 kg/m², with extremes ranging from 25.1 to 41.6 kg/m². 68 patients were overweight, 26 had Class I obesity, 23 had Class II obesity, and only 1 patient was morbidly obese. The mean postoperative body mass index was 27 kg/m², with extremes ranging from 24.5 to 40 kg/m².

Abdominoplasty was indicated to excise excess skin resulting from pregnancy in 94.4% of cases and in 4.7% of cases for excess skin resulting from massive weight loss. The procedure was also indicated in 76.7% of cases to correct a musculoaponeurotic wall defect.

99 patients had an abdominoplasty combined with lipoaspiration and 19 patients had a mini abdominoplasty combined with lipoaspiration.

Postoperatively, patients received acetaminophen and nefopam for antalgic purposes, physical and chemical thrombophylaxis as well as amoxicillin clavulanate.

107 patients had a favorable outcome, while 11 patients had the following complications:

- 8 patients presented with postoperative abdominal venous congestion and 6 of them evolved to skin necrosis. These patients were treated in the department and 5 of them kept unsightly scars.
- Two patients presented seromas and one patient presented a hematoma treated postoperatively with no impact on the postoperative result.

Quality of life assessment:

Using Wilcoxon test, we deduces that scores improved significantly ($p < .001$) after abdominoplasty. On average, patients generated scores of 139 preoperatively (Table

I), 157 one month after surgery and 175 after six months.

Table I: Means and medians of patients' QLI scores preoperatively (T1), at 1 month postoperatively (T2) then at 6 months (T3)

	Mean	Median	Standard deviation
Quality life index (T1)	139	140	12.5
Quality life index (T2)	157	155	11.8
Quality life index (T3)	175	170	14.4

Self-Esteem Assessment:

The Rosenberg score on average increased from 35.1 PO to 36.4 at one month postoperatively before reaching 37.2 six months after the procedure (Table II).

Table II: Means and medians of patients' QLI scores preoperatively (T1), at 1 month postoperatively (T2) then at 6 months (T3)

	Mean	Median	Standard deviation
T1	35.1	36	1.24
T2	36.4	36	1.5
T3	37.2	37	1.67

Evaluation of satisfaction:

There was a clear improvement in all the scores evaluated pre- and postoperatively (Figure 1). The average scar score after six months was 70.

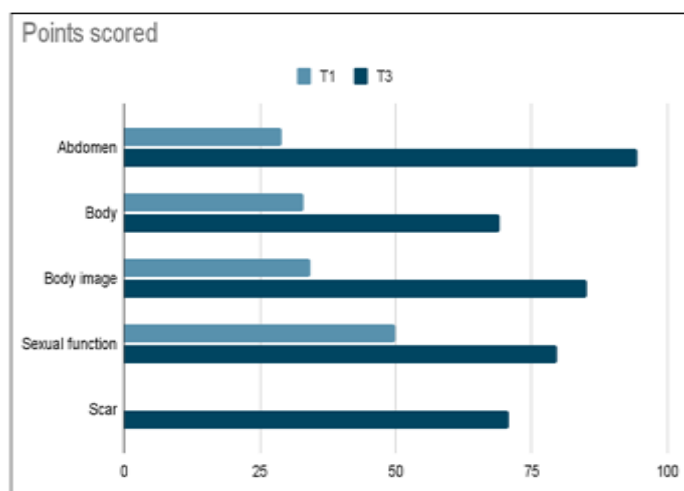


Figure 1: Evolution of average scores before and after abdominoplasty

Link between occurrence of complications and different scores:

A. Quality of life:

QLI scores improved in 115 patients among whom were the 11 patients who had complications (Table III). Using Fisher's test, we deduced that the occurrence of complications did not influence the improvement of the QLI scores ($p > 0.05$) (Table IV).

Table III: Comparison of the improvement of the QLI score between patients with and without complications

Occurrence of complications			
Improvement of QLI results	Yes	No	Total
Yes	11	104	115
No	0	3	3
Total	11	107	118

Table IV: Fisher's test for comparison of improvement in QLI scores between patients with and without complications

χ^2	Value	ddl	p
χ^2	0.316	1	0.574
Fisher's exact test			1.000
N	118		

B. Self-esteem:

The Rosenberg score improved in 7 of the patients who developed complications (Table V). That being said, there was no

association between improvement in Rosenberg score and the occurrence of complications.

Table V: Fisher's test for comparison of improvement in Rosenberg scores between patients with and without complications

Complications			
Improvement of Rosenberg score	Yes	No	Total
Yes	7	67	74
No	4	40	44
Total	11	107	118

Satisfaction:

To investigate the relationship between the occurrence of complications and patient satisfaction, we categorized patient T3 scores into two categories (Table VI), (Table VII), (Table VIII):

- Scores less than or equal to the sample mean
- Score above the sample mean.

The Fisher test proved that the occurrence of complications was related to a decrease in the Abdomen score ($p = 0.015$, and body image ($p = 0.033$).

However, there is no link between complications and the Body-Q score. As for the scar and sexual function, we concluded that complications affect patient satisfaction ($p < 0.001$), ($p < 0.05$) respectively (Table VI).

Table VI: Different BodyQ scores and the link between complications and scores

Scale	Clinical group	N	P value
Abdomen	Score inferior or equal to the mean value	78	0.015
	Score above the mean value	40	
Body	Score inferior or equal to the mean value	62	0.346
	Score above the mean value	56	
Body image	Score inferior or equal to the mean value	103	0.033
	Score above the mean value	15	
Scar	Score inferior or equal to the mean value	33	$p < 0.001$
	Score above the mean value	85	
Sexual function	Score inferior or equal to the mean value	46	0.033
	Score above the mean value	72	

P value is for the Fisher's test studying the link between each T3 score and occurrence of complications

Table VII: Body image T3 scores categories depending on complication occurrence

Complications			
Category	Yes	No	Total
Above the mean value	7	96	103
Less or equal to the mean value	4	11	15
Total	11	107	118

Table VIII: Scar T3 scores categories depending on complication occurrence

Complications			
Category	Yes	No	Total
Less or equal to the mean value	9	24	33
Above the mean value	2	83	85
Total	11	107	118

DISCUSSION

The socio-demographic data of our study are similar to those of the studies done on patients who underwent abdominoplasty [7].

The medical history was dominated by arterial hypertension found in 6% of the patients, and type II diabetes, at approximate rates to those observed in the studies. Medical history was found in 75.42% of all patients. Data from the literature confirm the high incidence of previous surgery, appendectomy and cholecystectomy especially in overweight and obese patients, a population that is also more likely to request abdominoplasty [7, 8].

The percentage of patients with a BMI > 30 (42.38%) was close to the percentages in the literature [8].

In our study, a case of morbid obesity was operated on for a functional abdominoplasty after multidisciplinary consultation between teams of plastic surgery, visceral surgery, endocrinology and psychiatry. The verdict was that the benefits of the procedure far outweighed the risks.

Complications did not affect patient satisfaction after their abdominoplasty in our study. This can be explained by the nature of

the complications we had, which were local (necrosis, hematoma...), without any general complication that would engage the vital prognosis.

The aesthetic concern behind the request for abdominoplasty is explained by what the physical reality represents for the patients. The latter constitutes the basis of the image that an individual has of himself. Indeed, physical appearance is generally among the first sources of information available to others to guide social interaction with the person. When studying the relationship between body image and cosmetic surgery, we consider that an individual's attitudes toward their body are two-dimensional. They consist of both a value for self-esteem and another for the actual degree of satisfaction or dissatisfaction with their body. People who derive a large part of their self-esteem from their body image may be more attentive to information about their appearance which therefore influences the demand for cosmetic surgery [9].

We found that patients' self-esteem improved significantly after abdominoplasty. Similar effects were noted using the Rosenberg score [10].

In terms of quality of life, abdominoplasty significantly improved patients' overall quality of life, whose QLI score was significantly higher six months after the procedure compared with the initial preoperative score.

Similar results have been noted in previous studies using the QLI or other scores. Patients had significantly better postoperative values for overall quality of life.

In a study by Von Soest *et al.*, investigating psychosocial changes in patients who had undergone cosmetic surgery, 81.4% of patients agreed that they were now more satisfied with their appearance, and 89.2% were particularly satisfied with the morphology of the operated body part [11]. In

the series by De Brito *et al.*, all patients experienced improved sexual functioning 6 months after abdominoplasty [12]. These results are corroborated by those of Lotte Poulsen *et al.*, in whom the abdominal Body Q improved from 13 preoperatively to 63 after the procedure [5].

This change cannot be explained by the objective outcome of the surgery alone. Body image depends on a multitude of personal, contextual and environmental variables. It is modulated by body reality, one's ideal, developmental crises, past experiences, coping mechanisms and the reaction of others. First developed during childhood, it will then be in reconstruction throughout life, notably during important upheavals in the life of an individual, whether they are physical or relational [9, 13].

This is why the indication for abdominoplasty does not only depend on the data of the physical examination. In fact, several ethical problems concerning cosmetic surgery are nowadays topical concerning the evaluation of the psychological terrain and the reason behind the patient's request. A complete psychosocial evaluation is necessary before any abdominoplasty. At the conclusion of this examination one should be able to know:

- History of mental illness and the patient's mental function
- Whether the patient's goals for the procedure are realistic [14].
- The patient's motivation for undergoing the procedure and changing his or her appearance, whether the desire for plastic surgery is due to social pressure or to the patient's own wishes [15].
- The degree of understanding and appreciation of the implications of the procedure, its limitations and risks [14].
- The patient's history of consultations with other plastic surgeons or history of previous cosmetic procedures: multiple consultations and repetitive cosmetic surgeries should alert the surgeon [14].

The focus on the psychological component in plastic surgery has led to the observation that patients who consult for reconstructive procedures may have certain psychiatric disorders, such as obsessive disorders or personality disorders, including narcissistic personality, histrionic personality disorder and body dysmorphic disorder (BDD). These disorders may be more prevalent in patients presenting for cosmetic surgery [16]. Therefore, certain behaviors or attitudes should arouse the plastic surgeon's suspicion [17]:

- Excessive demand for cosmetic surgeries or procedures.
- Dissatisfaction with the results of a previous surgery disproportionate to the objective results
- Abnormal or demanding behavior toward the staff.
- Unrealistic expectations of the cosmetic result.
- A belief that the cosmetic procedure will solve problems in other areas of life.

If patients are found to have some of these symptoms, it is in the plastic surgeon's best interest to request medical records and/or a psychiatric consultation. Mental health professionals can be a valuable asset to the plastic surgeon's practice when evaluating patients who may be poor candidates for surgical treatment.

CONCLUSION

Abdominoplasty has an important effect on different dimensions of the life of the patients who undergo it. Our study looked at the self-image of the subjects after abdominoplasty, along with their self-esteem and consequently their quality of life. These parameters all showed an improvement after the procedure. The indications for abdominoplasty should be closely linked to certain psychological dimensions of the patients. A global psychosocial evaluation would be very useful to provide a complete analysis of the psychological components of patients before this type of reconstructive procedure.

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