Aesth. Plast. Surg. 25:474–478, 2001
DOI: 10.1007/s00266-001-0009-7

Aesthetic Plastic Surgery

Psychopathology and Body Image in Cosmetic Surgery Patients

Serpil Vargel, M.D., and Aylin Uluşahin, M.D.

Ankara, Turkey

Abstract. The purpose of this study was to investigate the presence of psychiatric symptoms and evaluate the perceptive, cognitive, and behavioral aspects of body image in cosmetic surgery patients. These parameters of 20 cosmetic patients and of 20 control patients matched for age, gender, education, and marital status who attended the general surgery department for minor surgery were compared in a cross-sectional design. Symptom Check List-90 (SCL-90), Beck Depression Inventory (BDI), and The Multi-Dimensional Body Self Relations Questionnaire were administered to both groups. No significant difference was determined in the rates of psychopathology of the patient and control groups. Scales assessing self-image did not indicate any significant difference between the groups. Four (20%) of the cosmetic patients, however, were diagnosed with body dysmorphic disorder according to DSM-IV. Cosmetic patients were usually defensive towards psychological evaluations. A wide range of diversity was determined in the psychiatric evaluation of the cosmetic patient group. While some patients exhibited healthy psychological traits, some had severe depressive disorder or nearly psychotic somatic preoccupations.

Key words: Cosmetic surgery—Body image—Psychopathology—Body dysmorphic disorder

Psychopathology in subjects seeking cosmetic surgery is common. Disturbances of body image may be accompanied by the presence of a subjective feeling of ugliness or physical defect, although their appearance is within normal limits. The psychiatrist is concerned with whether people seeking surgical help for minor deformities have a specific psychopathology, and whether any psychological benefit will be provided by the cosmetic operation.

Some studies suggest that cosmetic surgery for minor deformities relieves the psychological distress caused by distorted body image, low self-esteem, and psychoneurotic profiles [11,20,21]. On the other hand, some authors have reported mild to severe psychiatric complications following cosmetic surgery [14,24,27]. Early studies involving the psychiatric assessments of cosmetic operation candidates revealed high rates of psychopathology, particularly in men. Edgerton reported that 53% of the women and 100% of the men who requested cosmetic surgery had a psychiatric disorder [13]. A much lower rate of psychopathology was found in another early study [17]. Personality disorders, particularly narcissistic personality disorder, were very common in this group of patients [22]. Psychotic disorders have also been recorded in this population, at rates of 1% to 16% [6,10,17]. On the other hand, in their study comparing cosmetic patients with reconstructive patients and normal controls, Gürsu et al. [15] did not find any significant differences between the groups in terms of life satisfaction, self-esteem, and body image index.

Preoccupation with a defect in appearance which is either imagined or, if a slight anomaly is present, the object of markedly excessive concern is the essential feature of body dysmorphic disorder (BDD) [1]. Early estimations for the rate of BDD among cosmetic surgery patients were around 2% [2]. Recent studies report greater rates of body dysmorphic disorder (between 7% and 14.4%) both among patients requesting cosmetic surgery and among patients seeking dermatological treatment [23,26]. Identification of BDD is important since it is known that patient satisfaction with cosmetic surgery is usually poor in such cases [16,25].

The aim of the present study was to compare candidates for cosmetic and minor general surgery with regard to (1) the frequency of psychiatric symptom presentations, (2) depression rates, (3) perceptive, cognitive and

Correspondence to Dr. A. Uluşahin, Hacettepe Üniv. Tıp Fak., Psikiyatri Bölümü, 06100, Ankara, Turkey. *Email:* ulusahn@ato.org.tr

Table 1. Socio-demographic features of the study groups

	Cosmetic surgery	General surgery
N	20	20
Male/female	7/13	7/13
Age range (mean ± SD)	25.6 ± 8.76	25.6 ± 8.76
	18–58	18–58
Marital status		
Single	13	14
Divorced	1	—
Married	6	6
Level of education		
Lycee graduate	8	8
Univ. student	8	8
Univ. graduate	4	4
Occupation		
Student	8	9
Clerk	3	3
Technician	3	3
Engineer	2	2
Laborer	1	2
Nurse	1	1
Tourist guide	1	—
Unemployed	1	—

attitudinal aspects of body image, and (4) the presence of body dysmorphic disorder.

Method

Sampling

The study was carried out over a six-month period, at Hacettepe University Hospital, Ankara. The study group consisted of 20 subjects who consecutively attended the Plastic and Reconstructive Surgery Department for cosmetic surgery. The operations requested by the subjects were rhinoplasty (n = 9, 45%), facial reconstruction (n = 7, 35%), earlap reconstruction (n = 2), abdominal reconstruction (n = 1), and mammaplasty (n = 1).

The control group comprised 20 subjects matched for age, gender, educational level, and marital status. Control subjects were recruited from among patients attending the Department of General Surgery of the same university hospital for minor surgery with diagnoses of lipoma, fibroadenoma, and dermal cyst.

Patients with congenital or acquired malformations and subjects who suffered a known neurological or psychiatric disorder were not included in the study. In order that the self-report questionnaires be filled in competently, only subjects with more than eight years of education were included. Table 1 shows the sociodemographic features of the study groups.

Procedure

To avoid any bias that might be caused by a face-to-face interaction, the design of the study was based mainly on self-report instruments. In order to distinguish body dysmorphic disorder, each subject was interviewed by the first author in a half-hour session after completing the questionnaires. As there was no suitable place available in the Plastic and Reconstructive Surgery Department, evaluations were carried out in the Department of Psychiatry. The subjects were evaluated after the physical examination and prior to hospital admission. DSM-IV [1] criteria were used for diagnosing body dysmorphic disorder.

Instruments

Symptom Check List-90 Revised (SCL-90-R). This is a self-report checklist developed by Derogatis [8] as a screening test for psychiatric symptoms in outpatients. Subjects were asked to rate the items on a five-point classical Likert type scale. Nine subscales of SCL-90 involve specific aspects of psychopathology. Assessment of the SCL-90 can be performed both with the General Symptom Index (GSI) and with subscale symptom indexes. Symptom indexes are calculated by the division of the total score by the number of items. Values over 1 indicate the presence of psychopathology. Reliability and validity analyses of Turkish translation of SCL-90-R revealed that although the subscales were not valid, they were reliable, and GSI was valid [7].

Beck Depression Inventory (BDI). BDI is a well-known self-report inventory. Reliability and validity have been tested in several Turkish studies [18,19,29].

The Multi-Dimensional Body Self Relations Questionnaire (MBSRQ). This is an instrument developed by Winstead and Cash [5] to evaluate the perceptual, behavioral, and attitudinal aspects of body image. Reliability and validity functions of the Turkish translation of the questionnaire revealed that 57 of the items on the MBRSQ were valid for the Turkish culture [9]. The MBSRQ consisted of seven subscales: appearance evaluation, appearance orientation, fitness evaluation, fitness orientation, health evaluation, health orientation, and body areas satisfaction. The separate use of these subscales is also possible. The purpose of orientation subscales is to assess the cognitions, behaviors, and attitudes of the subject with regard to body image, whereas the evaluation scales and body areas satisfaction scale assess the perceptual aspects of body image.

Items are rated on a scale of 1 (definitely disagree) to 5 (definitely agree). Higher scores indicate higher levels of satisfaction. Either the scale/subscale total score (STS) or the scale/subscale average score (SAS) can be employed. Average scores are calculated by dividing total scale score by the item count.

Data Analysis

SPSS-PC was used for computing statistical analyses. We used Student's *t* test for the comparison of continuous variables. The Pearson correlation coefficient was

Table 2. Comparison of BDI and SCL-90-R scores between the cosmetic and general surgical operation candidates

SCL-90-R subscales	Cosmetic		General surgery			
	Mean	SD	Mean	SD	*t* Value	
BDI	12.65	11.94	10.55	7.07	0.68	NS
GSI	1.04	0.69	0.89	0.57	0.75	NS
Somatization	0.92	0.7	0.74	0.51	0.93	NS
Obs.-comp.	1.29	0.72	1.3	0.73	−0.04	NS
Interpers. sensitivity	1.39	0.92	1.23	0.74	−0.61	NS
Depression	1.08	0.77	0.97	0.7	0.44	NS
Anxiety	1.08	0.76	0.93	0.51	0.74	NS
Anger-hostility	1.08	1.03	0.61	0.65	1.71	NS
Phobic anxiety	0.69	0.62	0.47	0.58	1.17	NS
Paranoid ideation	1.23	0.88	1.11	0.79	0.47	NS
Psychotism	0.83	0.64	0.77	0.62	0.31	NS
Average	**0.98**	**0.84**	**0.92**	**0.65**	**0.24**	**NS**

NS: Not significant ($p > 0.05$).
Obs.-comp.: obsessive-compulsive.
Interpers. sensitivity: Interpersonal sensitivity.

Table 3. Comparison of MBSRQ total and subscale average scores between the cosmetic and general surgical operation candidates

MBSRQ subscales	Cosmetic		General surgery			
	Mean	SD	Mean	SD	*t* Value	
Body areas satisfac.	3.23	0.68	3.37	0.51	−0.70	NS
Appearance evaluat.	4.08	0.75	4.43	0.70	−1.54	NS
Appearance orientation	4.08	0.62	3.97	0.62	0.53	NS
Fitness evaluation	3.34	0.69	3.64	0.54	−1.53	NS
Fitness orientation	3.03	0.54	2.81	0.76	1.06	NS
Health evaluation	3.52	0.83	3.63	0.54	−0.49	NS
Health orientation	3.38	0.71	3.55	0.61	−0.83	NS
Total	**3.44**	**0.43**	**3.51**	**0.37**	**−0.59**	**NS**

NS: Not significant ($p > 0.05$).

calculated for the correlation analysis of the questionnaire scores.

Results

Comparison of SCL-90, BDI, and MBSRQ Scores in Two Study Groups

Total scores of SCL-90 were compared in cosmetic and general surgical operation candidates by the *t* test (Table 2). The GSI of the cosmetic operation candidates was higher than that of the control group, though the difference was not significant. Fifty percent of the cosmetic group and 40% of the control group GSI scores were over 1, which indicated the presence of psychopathology. The mean GSI of the cosmetic group was also over 1, whereas control group's mean GSI score was 0.89 (Table 3).

The mean BDI score of the cosmetic group was higher than that of the control group, but not at a statistically significant level. The depression rate according to BDI scores, on the other hand, was higher in the general surgery patients (50%) than in the cosmetic patients (35%), but again the difference was not statistically significant. Moderate depression (BDI = 13–24) was present in five (25%) of the cosmetic patients and 10 (50%) of the control patients. Two subjects from the cosmetic group had severe depression (BDI scores 33 and 35). The BDI scores of these two subjects with severe depression increased the mean of the cosmetic group's BDI score.

Neither MBSRQ total nor subscale average scores significantly differed between the cosmetic and control groups. According to the body areas satisfaction subscale, 55% of the cosmetic and 50% of the control group were happy with their faces; 25% of the cosmetic and 65% of the control groups were happy with their body weights; 30% of the cosmetic group were unhappy with their appearance, whereas none of the control group felt so. Feelings about other body parts did not vary between the two study groups.

Correlations Between BDI and MBSRQ Subscales

Table 4 presents the correlations between the scales of MBSRQ and BDI.

Body Dysmorphic Disorder

Four subjects met the criteria for DSM-IV body dysmorphic disorder. Brief descriptions of the clinical features of these patients follow.

Case 1. A 34-year-old female, single and unemployed complaining about eye wrinkles. As she believed these wrinkles made her extremely ugly, she wore large black sunglasses all the time to hide them. MMPI and Rorschach tests results were defensive and uninformative.

Case 2. A 26-year-old male, single and a student. He complained about the roughness of his facial skin. He believed that everybody who had contact with him noticed the ugliness of his skin, and so he avoided all types of social contact. He refused projective tests, claiming that the operation would solve all these problems.

Case 3. A 19-year-old male, single and unemployed. The upslant of his earlobe was his major concern. He believed that girls did not find him attractive because of this defect. Two years ago he had had an earlobe opera-

Table 4. Correlations between BDI and MBSRQ

Scales								
BDI (1)	1.0							
MBSRQ (2)	−0.13	1.0						
Body areas satisfac. (3)	−0.2	0.67***	1.0					
Appearance evaluat. (4)	−0.16	0.73***	0.51***	1.0				
Appearance orientat. (5)	−0.04	0.57***	0.09	0.46**	1.0			
Fitness evaluation (6)	−0.09	0.71***	0.51***	0.68***	0.27	1.0		
Fitness orientation (7)	0.19	0.43**	0.05	0.03	0.19	0.15	1.0	
Health evaluation (8)	0.36*	0.45***	0.31*	0.2	0.14	0.21	−0.04	1.0
Health orientation (9)	−0.56	0.81***	0.53***	0.53***	0.27	0.51	0.26	0.32**
Scales	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

*** $p < 0.001$.
** $p < 0.01$.
* $p < 0.05$.

tion for minimally large ears. Three months later the upslant of his earlobes annoyed him. As his demand for a second operation was refused, he began gluing his earlobes, a practice he continued for one year until the toxic effects of the glue became apparent. Since then, he used adhesive tape to attach his earlobes and tried to hide them with his hair. He requested an operation from the plastic surgery department. MMPI test was interpreted as defensive and uninformative.

Case 4. A 25-year-old female, single and a nurse. She complained about the ugliness of her face and insisted on obtaining a new, good-looking face. She was disturbed by her perceived ugliness and attributed all negative attitudes towards herself to her unpleasant appearance. She wore excessive make-up although she disliked cosmetics. Her MMPI test was defensive and uninformative.

Discussion

This is a cross-sectional study comparing cosmetic surgery candidates with preoperative minor general surgery patients with regard to the presence of psychopathology and several aspects of body image. Subjects who were to undergo surgery for minor problems were chosen as controls for the cosmetic group in order to allow for the psychological effects of the operation itself. Our sample size was small however, the study group and the control group were almost fully matched in terms of age, gender, marital status, and educational level.

Our sample consisted mainly of young subjects, 95% being between 18 and 30 years old. It is known that preoccupation with the body usually starts during adolescence [2]. In addition, physical beauty is thought to be particularly advantageous during these years since it is the period of life when occupation and mating relationship are established. In accordance with the young age, 70% of the sample were single. Only one third of the sample were male, as cosmetic surgery is more common among women [12].

A large majority of our cosmetic patients wanted facial surgery. Because of the small sample size, our patients were not representative of the entire population of cosmetic surgery candidates. In literature on body dysmorphic disorder, the body part most commonly the object of preoccupation is the face [2,24,28,30]. On the other hand, patients with eating disorders—the other group of disorders associated with body image disturbance—are likely to consult a plastic surgeon for breast reduction, abdominoplasty, or liposuction [3].

Sarwer et al. [26] reported that cosmetic patients did not demonstrate unusually high dissatisfaction with their overall appearance with regard to the reported normal values. However, when asked about the specific body feature they were considering for cosmetic surgery, they reported significantly greater dissatisfaction than that of a normative sample. Of interest in our sample, although 90% of the cosmetic group were requested facial operations, 55% of them were happy with their faces. This could be interpreted as a desire to improve their appearance in spite of being generally pleased with their faces. A narcissistic personality disorder has been reported to be common in such patients [22].

The cosmetic group was not statistically different from the control group in terms of psychopathology. This finding can be interpreted as supporting the self-consistency approach. This theory postulates that cosmetic surgery is a practical solution for a normal woman in terms of self-esteem who is trying to remedy a consciously felt inconsistency between general and specific body-part esteem [4]. Thus, cosmetic surgery is considered an attempt to rectify this inconsistency.

Aside from the two patients with severe depression, depression was not common among the cosmetic patients. According to this observation, subjects seeking beauty may tentatively be considered as people with high self-esteem. On the other hand, although the difference did not reach a statistically significant level, all scores indicating psychopathology were higher in the cosmetic group than in the minor general surgery group. SCL-90 scores indicated that cosmetic patients could be described as more anxious, hostile, and preoccupied with

somatic concerns than the control patients. Lack of statistical significance was probably due to the small sample size, which was the main shortcoming of our study.

Inconsistent with our results, Sarwer et al. [26] found significant differences in several aspects (fitness orientation, health orientation, illness orientation, and health evaluation) of body image measures between female cosmetic surgery patients and national normative sample. Since our control group was also recruited among scheduled operation patients, it was not surprising that health measurements did not differ from those of the cosmetic group. The positive correlation between depression scores obtained by BDI with health evaluation scores indicated that perception of bodily sensations were higher in depressed subjects.

All four of the body dysmorphic patients were defensive towards projective psychological tests. This shared sensitivity might have been caused by the belief that their discomfort was not psychological. They might also have been concerned that the determination of any psychological disturbance would undermine the chances of their requests for cosmetic surgery being granted. In fact, this concern might influence the responses of all cosmetic patients. Being evaluated in the department of psychiatry probably increased their concern and their resistance. The reluctance of subjects seeking cosmetic surgery to undergo psychiatric assessment has been reported previously [3].

In conclusion, seeking cosmetic surgery does not indicate a high probability of psychiatric disturbance. Preoperative psychiatric assessment, however, may detect a wide variety of psychiatric disorders, particularly body dysmorphic disorder and depression, thus protecting the surgeon from further social and occupational complications.

Acknowledgments. We want to thank Drs. Figen Özgür and Güler Gürsu for their permission for us to evaluate their patients.

References

1. American Psychiatric Association: *Diagnostic and statistical manual of mental disorders, 4th ed.* American Psychiatric Press: Washington DC, 1994
2. Andreasen NC, Bardach J: Dysmorphophobia: symptom or disease? *Am J Psychiatry* **134:**673–676, 1977
3. Bradbury E: The psychology of aesthetic plastic surgery. *Aesth Plast Surg* **18:**301–305, 1994
4. Burk J, Zelen Sl, Terino EO: More than skin deep: a self-consistency approach to the psychology of cosmetic surgery. *Plast Reconstr Surg* **76:**270–279, 1985
5. Cash TF, Winstead BA, Janda LH: Body image survey report: the great American shape-up. *Psychology Today* **20:**30–44, 1986
6. Connolly FH, Gipson M: Dysmorphophobia: a long term study. *Br J Psychiatry* **132:**568–570, 1978
7. Dağ I: Symptom check list (SCL-90-R); a reliability and validity study. (In Turkish) *Turkish Journal of Psychiatry* **2:**5–12, 1991
8. Derogatis LR: *SCL-90: administration, scoring and procedure manual-I for the revised version.* Johns Hopkins University, School of Medicine, Clinical Psychometrics Unit: Baltimore, MD, 1977
9. Doğan O, Doğan S: *Manual of body self relations questionnaire* (in Turkish). Publications of Cumhuriyet University, 1992
10. Edgerton M, Jacobson W, Meyer E: Surgical/psychiatric study of patients seeking plastic (cosmetic) surgery: 98 consecutive patients with minimal deformity. *Br J Plastic Surgery* **13:**136–145, 1960
11. Edgerton MT, Langman MW, Pruzinsky T: Plastic surgery and psychotherapy in the treatment of 100 psychologically disturbed patients. *Plast Reconstr Surg* **88:**594–608, 1991
12. Edgerton MT, Langman MW: Psychiatric considerations. *In:* EH Courtiss (ed). *Male aesthetic surgery.* Mosby: St. Louis. 1982, pp 17–38
13. Edgerton MT, Webb WL, Slaughter R: Surgical results and psychosocial changes following rhytidectomy: an evaluation of face lifting. *Plast Reconstr Surg* **33:**503–521, 1964
14. Goin MK, Burgoyne RW, Goin JM, Staples FR, et al. A prospective psychological study of 50 female face-lift patients. *Plast Reconstr Surg* **65:**436–442, 1980
15. Gürsu G, Özgür F, Çevik A, Palabıyık R, Özden A: Psychological problems in aesthethic plastic surgery patients. Oral Presentation at World Aesthetic Surgery Congress, Paris, 1993
16. Hay GG: Changes in psychometric test results following cosmetic nasal operations. *Br J Psychiatry* **122:**89–90, 1973
17. Hay GG: Psychiatric aspects of cosmetic nasal operations. *Br J Psychiatry* **116:**399–406, 1970
18. Hisli N: Validity of BDI in psychiatric patients (in Turkish). *Journal of Psychology* **21:**118–126, 1988
19. Hisli N: Validity of BDI in university students (in Turkish). *Journal of Psychology* **23:**3–11, 1989
20. Hollyman JA, Lacey JH, Whitfield PJ, Wilson JSP, et al.: Surgery for the psyche: a longitudinal study of women undergoing reduction mammoplasty. *Br J Plast Surg* **39:**222–224, 1986
21. Housman SB: Psychosocial aspects of plastic surgery. *In:* McCarthy JG (ed) *Plastic surgery.* W.B. Saunders Company: Philadelphia. 1990, pp 113–138
22. Napoleon A: The presentations of personalities in plastic surgery. *Ann Plast Surg* **31:**193–208, 1993
23. Phillips KA, Dufresne RG, Wilkel CS, Vittorio CC, et al.: Rate of body dysmorphic disorder in dermatology patients. *J Am Acad Dermatol* **42:**436–441, 2000
24. Phillips KA, McElroy SL, Keck PE, Pope HG, Hudson JI, et al.: Body dysmorphic disorder: 30 cases of imagined ugliness. *Am J Psychiatry* **150:**302–308, 1993
25. Reich J: Factors influencing patient satisfaction with the results of aesthetic plastic surgery. *Plast Reconstr Surg* **55:**5–13, 1975
26. Sarwer DB, Wadden TA, Pertschuk MJ, Whitaker LA, et al.: Body image dissatisfaction and body dysmorphic disorder in 100 cosmetic surgery patients. *Plast Reconstr Surg* **101:**1644–1649, 1998
27. Schweitzer I, Hirschfeld JJ: Postrhytidectomy psychosis: a rare complication. *Plast Reconstr Surg* **74:**419–422, 1984
28. Sturmey P, Slade PD: Anorexia nervosa and dysmorphophobia: a case study. *Br J Psychiatry* **149:**780–782, 1986
29. Tegin B: Cognitive schemes in depression (in Turkish). Unpublished dissertation thesis, Hacettepe University, 1980
30. Thomas CS: Dysmorphophobia: a question of definition. *Br J Psychiatry* **44:**513–516, 1984