

**A comparison of body image concern in candidates for rhinoplasty and therapeutic surgery**Seyed Amirhosein Ghazizadeh Hashemi<sup>1</sup>, Behnoosh Edalatnoor<sup>2</sup>, Behnaz Edalatnoor<sup>1</sup>, Omid Niksun<sup>3</sup>

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**Type of article:** Original**Abstract**

**Background:** Body dysmorphic disorder among patients referring for cosmetic surgeries is a disorder that if not diagnosed by a physician, can cause irreparable damage to the doctor and the patient.

**Objective:** The aim of this study was to compare body image concern in candidates for rhinoplasty and therapeutic surgery.

**Methods:** This was a cross-sectional study conducted on 212 patients referring to Loghman Hospital of Tehran for rhinoplasty and therapeutic surgery during the period from 2014 through 2016. For each person in a cosmetic surgery group, a person of the same sex and age in a therapeutic surgery group was matched, and the study was conducted on 60 subjects in the rhinoplasty group and 62 patients in the therapeutic surgery group. Then, the Body Image Concern Inventory and demographic data were filled by all patients and the level of body image concern in both groups was compared. Statistical analysis was conducted using SPSS 16, Chi-square test as well as paired-samples t-test. P-value of less than 0.05 was considered statistically significant.

**Results:** In this study, 122 patients (49 males and 73 females) with mean age of  $27.1 \pm 7.3$  between 18 and 55 years of age were investigated. Sixty subjects were candidates for rhinoplasty and 62 subjects for therapeutic surgery. Candidates for rhinoplasty were mostly male (60%) and single (63.3%). Results of the t-test demonstrated that body image concern and body dysmorphic disorder were higher in the rhinoplasty group compared to the therapeutic group ( $p < 0.05$ ).

**Conclusion:** Results of this study showed that the frequency of rhinoplasty candidates is higher in single male subjects. In addition, body image concern was higher in rhinoplasty candidates compared to candidates for other surgeries. Visiting and correct interviewing of people who referred for rhinoplasty is very important to measure their level of body image concern to diagnose any disorders available and to consider required treatments.

**Keywords:** Body Image Concern; Rhinoplasty; Therapeutic Surgery

**1. Introduction**

Human beings love beauty and there has long been a tendency towards beauty in the nature of human beings (1). A good face improves one's self-image and gives them self-confidence and therefore, their social activities are performed at a more acceptable level (2). Appearance is an important part of individual's identity and it emerges in social situations immediately when dealing with others. Therefore, the importance of this structure of personality is evident (3). Physical appearance is an important part of body image, since it is the first source of information used by others for social interactions with an individual (4). The body concept for an individual is an important part of their self-concept. The body is the most visible part of a person's self and self-awareness (5). Body image is the inner incarnation of exterior appearance and this representation includes physical, perceptual, and attitudinal

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dimensions (6). The main dimensions of this attitude include the components of evaluation, a person's investment when dealing with appearance, and emotions schema that reveals the importance of internalized appearance (5). Today, the tendency towards cosmetic surgeries, especially rhinoplasty, has increased in Iran. Psychological characteristics of individuals before rhinoplasty is one of the predictors of patients' satisfaction with surgery. In Iran, cosmetic surgery, especially rhinoplasty, is a familiar phenomenon; rhinoplasty can definitely be considered the most popular cosmetic surgery in Iran that is increasing day by day (7). In addition, according to the reports by the American Society of Plastic Surgeons in 2010, cosmetic surgery increased by 147% from 1997 to 2009 (8). Results of some studies conducted on cosmetic surgery show that psychological reasons play a major role in tendency towards cosmetic surgery (9). In two studies conducted on candidates for rhinoplasty and a control group, the first group showed more neurotic and obsessive symptoms (10). According to Baumann, a significant number of rhinoplasty candidates are not satisfied with the results of this surgery (11). Results of other studies conducted in Iran indicate that mean age of candidates for cosmetic surgeries especially rhinoplasty is at the end of adolescence and a young age (7). In fact, body dysmorphic disorder means that there is a minor deficit in patients' appearance or indeed no deficit exists that causes severe stress and disruption of the individual's social life (12). Its prevalence in the public has been reported to be between 1% and 3% (12-15). On the other hand, the prevalence of this disorder is higher among patients referring for beauty treatment (12 and 16). Based on conducted studies and research, people with mental states such as depression, anxiety and psychosis as well as those who suffer from chronic mental disorders are not good candidates for cosmetic surgery (17). Since the psychology of cosmetic surgery is not well-recognized yet, and few studies are conducted on psychological characteristics of cosmetic surgery candidates that mainly include clinical reports, and considering that the number of candidates for cosmetic surgery is increasing annually (18) which can bring about severe psychological consequences, the necessity is felt to conduct more coherent studies in this field. Therefore, this study was conducted with the aim of determining and comparing body image concern in candidates for rhinoplasty and therapeutic surgery in Loghman Hospital of Tehran.

## **2. Material and Methods**

This descriptive and analytic study was conducted on 122 candidates for therapeutic surgery and rhinoplasty referring to the ENT Clinic of Loghman Hospital in Tehran, Iran during the period from 2014 to 2016, using convenience sampling. To this purpose, all patients from 18 to 55 years of age who referred for rhinoplasty, as cases of being candidates for surgery (n=60) and patients who were candidates for therapeutic surgery except rhinoplasty due to various diseases including chronic infections of the middle ear, nasal deviations, and chronic tonsil and thyroid infections (n=62) entered the study after being informed on objectives and trend of the study. The two groups were matched in terms of age, gender, and education. Exclusion criteria were people with the following: 1. nasal congestion or allergic symptoms or a history of sinusitis; 2. a history of anxiety, depression or any other mood disorder or psychiatric illness; 3. any chronic heart, lung, and kidney disease; 4. any type of congenital disorder, especially head and neck problems, including cleft lip, cleft palate, etc.; and 5. any previous rhinoplasty. Written consent was obtained from all patients. Patients were examined by a surgical team professor in their first visit, and all benefits, side effects and the necessity of surgery were explained for all patients. In the case of cosmetic surgery patients, patients' expectations of the surgery and the cause of dissatisfaction of their nose were talked about. For each person in the cosmetic surgery group, a person of the same sex and age in therapeutic surgery group was matched and the study was conducted with 60 subjects in the rhinoplasty group and 62 patients in the therapeutic surgery group. Then, the Body Image Concern Inventory (BICI) and demographic data were filled by all patients and the level of body image concern in both groups was compared. The Body Image Concern Inventory is a measuring tool with 19 questions that investigate people's dissatisfaction and anxiety of their appearance. This tool has two factors, the first of which includes the person's dissatisfaction and shyness of appearance, and checking and hiding perceived defects. The second factor shows the interference of body image concern with social function of the individual. Littleton et al. (2005) reported Cronbach's alpha score of this inventory for all questions, the first factor and the second factor were 0.93, 0.92 and 0.76 respectively (19). The psychometric properties of this tool have been reported to be satisfactory in Iranian society (20, 21). In a study conducted in Ahvaz, when investigating 117 patients referring for rhinoplasty, BICI was used and conducting clinical interviews with DSM IV criteria along with the score of inventory, the accuracy of inventory was examined by a psychologist with validity of 85% and reliability of 9.0 according to Cronbach's alpha. The cut off point for considering body dysmorphic disorder as positive was 42. Diagnostic accuracy of the Persian version was 91.4% compared to the gold standard diagnostic test, i.e. the clinical interview (p<0.001); score 42 shows sensitivity of 93.5% and featuring of 80.8% in diagnosing body dysmorphic disorder. The scoring system is such that the person is asked to score each question from 1 to 5 according to their feeling or behavior. Score 1 means that I have never had such a feeling or I have never done this, and 5 means that I always have such a feeling or I always do this. The total score of this inventory varies between 19

and 95 and obtaining a higher score shows higher dissatisfaction of body image. Statistical analysis was conducted using SPSS 16, chi-square test as well as paired-samples t-test. P-value of less than 0.05 was considered normal.

### 3. Results

In this study, 122 patients (49 males and 73 females) with mean age of  $27.1 \pm 7.3$  between 18 and 55 years of age were investigated. The percentage of male subjects in the rhinoplasty and cosmetic surgery groups was 60 and 59.6% respectively. The percentage of single subjects in the rhinoplasty and cosmetic surgery groups was 63.3 and 43.5% respectively. Distribution of patients according to the type of surgery (cosmetic or therapeutic) and measured variables are shown in Table 1. The difference between the two groups was only significant in terms of education ( $p=0.009$ ). The difference between the two groups was not significant in terms of age (Table 1). Mean BICI score was generally  $10.5 \pm 35.3$  with a minimum score of 19 and maximum score of 69. Mean and standard deviation of BICI score were ( $39.6 \pm 10.5$ ) in the cosmetic surgery group and ( $31.1 \pm 8.6$ ) in the therapeutic surgery group. T-test showed a significant statistical difference between the two groups ( $p < 0.001$  and  $t\text{-test} = 2.73$ ), such that, body image concern in the cosmetic surgery group was significantly higher relative to the therapeutic surgery group.

**Table 1.** Demographic information of patients in two groups of rhinoplasty and therapeutic surgery

Variables	Sub-group	Rhinoplasty		Therapeutic Surgery		p-value (Chi-square test)
		%	n	%	n	
Gender	Female	40.3	25	40	24	0.5
	Male	59.7	37	60	36	
Education level	Illiterate	11.2	7	0	0	0.009
	Less than a bachelor's degree	69.3	43	80	48	
	Bachelor and higher	19.5	12	20	12	
Marital Status	Single	43.5	27	63.4	38	0.13
	Married	53.2	33	35	21	
	Divorced	1.6	1	1.6	1	
Mean age (year)		26.7 $\pm$ 6.9		27.2 $\pm$ 7.6		t-test=0.1

### 4. Discussion

The feeling of satisfaction mostly follows when approaching fitness and beauty criteria, and dissatisfaction and complaints occur due to being far from these criteria, and this feeling is more in females than males (22). Results of the present study showed that most candidates for cosmetic surgery are male with education of less than a bachelor's degree and this result does not comply with the results of study conducted by Zojaji et al. (2007) (23). In the present study, subjects in the rhinoplasty group were of higher education, which is similar to the results of a study conducted by Babuccu et al. in 2013. However, in terms of marital status, there was no difference between the groups, which is contrary to the result of the same study. In addition, in the study conducted by Babuccu et al., over half of the candidates for rhinoplasty were single (24) which complies with the results of present study. It appears that there is this belief among some single people that facial attraction is considered as important and initial criteria for marriage, and to have a successful marriage, you should minimize facial imperfections. This is probably why single people are more attracted towards cosmetic surgery. Another finding of the study showed that there is a difference between cosmetic and therapeutic surgery groups in terms of body image and candidates for cosmetic surgery have a more negative body image, which is contrary to the results of a study by Zahairedin and Khaliqi Sigaroody (25). The study conducted by these authors showed that mental health (in general, and subcategories of depression, anxiety, physical complaints and social incompatibility) as well as self-concept were similar between candidates for rhinoplasty and the control group. In his study, Adams concluded that the motivation of candidates for cosmetic surgery is resulted from both physical and socio-psychological reasons; i.e. these people are attracted towards cosmetic surgery with the hope of positive physical changes as well as to assist the social or emotional changes (changes in emotional relations and feelings) (26). The body image can also be effective in tendency towards rhinoplasty. This mental image can be affected by factors like physical development, person's interaction with social environment, accidents, damage and physical injuries that create body image concerns in individuals (27). According to the studies conducted by Ricciardelli and McCabe in 2001, it was shown that a large number of people in society, especially women, want to change their body image (28). In 2005, Rubinstein reported in his study that following physical dissatisfaction and creation of negative self-concept, the person wants to change their physical image to be able to bring their real body image closer to their ideal one (29). Deviated body images can affect people's physical and mental health, and continuous dissatisfaction of body image can result in depression (30, 31),

anxiety and social phobia (5, 32, 33), sleep disorder and mental turmoil (34, 35), disruption in nutrition (5, 30, 32), etc. In addition, these findings comply with the studies conducted by Fredrick et al. in 2007 and Von Soest in 2009 (22, 35). The possible explanation for this finding is that one of the major aspects that forms people's health is their physical appearance and body image. Cultural and social values and society's high emphasis on external attraction, comparing people based on their appearance, valuing beautiful people and facilitating affairs for them, and on the other hand, creating the sense of being minor due to appearance or encountering a humorous experience from others can make people sensitive relative to their body image. On the other hand, these people with negative self-concept select cosmetic surgery to reduce this body image and acquire a higher self-esteem, and if cosmetic surgery provides them with the least satisfaction from their respective organ, they may be satisfied with their physical image. Most reactions of people depend on their imagination and image of themselves in their mind. A real impression of one's appearance in a reasonable range shows their personal maturity. Those who select cosmetic surgery to increase their beauty and fitness are usually misled in their real image. Therefore, more knowledge of the surgeon on psychological symptoms and being assured of patients' mental health appears necessary. In this regard, it is suggested to cosmetic surgeons to be careful when accepting patients with a history of mental and personality problems with repeated surgery, and if necessary, encourage and refer them to a psychiatrist and counselor to prevent possible outcomes and consequences.

### **5. Conclusions**

Findings of this study showed that the level of body image concern in patients referring for rhinoplasty was higher compared to candidates for therapeutic surgery. Rhinoplasty was mostly conducted on single males with education of less than a bachelor's degree. The functional importance of these findings is that BICI could be a standard to diagnose body dysmorphic disorder. It is suggested to conduct controlled studies with a long-term follow up on rhinoplasty candidates, to be able to comment on the status of cosmetic surgery in patients with body dysmorphic disorder. On the other hand, to diagnose the symptoms of body dysmorphic disorder, the best way is to conduct psychiatric interviews and simply filling an inventory does not suffice. Conducting a complementary study on the level of body image concern on candidates for rhinoplasty using case-control techniques, could be a good way for further research.

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### **Conflict of Interest:**

There is no conflict of interest to be declared.

### **Authors' contributions:**

All authors contributed to this project and article equally. All authors read and approved the final manuscript.

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