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Investigating the Level of Body Image Concern among the Applicants for Rhinoplasty before and after Surgery

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Abstract

Background

In recent years, with the advancement of medical science, rhinoplasty techniques have grown rapidly and now rhinoplasty is one of the most common types of surgeries in the world. On the other hand, the prevalence of body dysmorphic disorder (BDD) among the patients referred for cosmetic surgery is a disorder which, if not detected by a doctor, can lead to irreparable injuries to the physician and patient.

Materials and Methods

The present research was carried out with pre-test and post-test design and convenience sampling method. The research population consisted of all rhinoplasty applicants who referred to the Ear, Nose, and Throat (ENT) Clinic in Loghman Hospital in Tehran-Iran, during the years 2013-2015 and were treated by a team of surgeons. The study was conducted in two stages. In the first stage, the level of body image concern (using the body image concern inventory [BICI]) was evaluated in rhinoplasty applicants, and in the second stage, in a 3-month follow-up, the body image concern level was reassessed in patients undergoing cosmetic surgery and compared with preoperative stage.

Results

There was a significant difference in body image concern in rhinoplasty candidates before and after the surgery and after the cosmetic surgery, this body physical concern was increased ($P<0.05$). Gender, education level and marital status were not effective in this regard ($P>0.05$).

Conclusion

Psychological factors seem to play a role in the demands of both cosmetic surgery and its outcome. Therefore, the pre-rhinoplasty study of psychological components (including the level of body image concern) is necessary to provide a timely diagnosis and appropriate treatment in case of disorder.

Key Words: Body Image Concern, ENT, Iran, Rhinoplasty.

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1- INTRODUCTION

Rhinoplasty consists of two Greek words, Rhino, meaning nose and plasty, meaning shaping. The history of rhinoplasty dates back to 500 BC; one of the types of punishment included nose lost, which was restored again by surgical procedure (1). In recent years, with the advancement of medical science and the invention of new surgical techniques, rhinoplasty techniques are rapidly growing, and now rhinoplasty is one of the most common types of surgeries in the world (2). There seem to be three reasons for the use of rhinoplasty:

1. Structural disruption in the nose that makes breathing difficult,
2. Deformation in the external or internal structure of the nose, and
3. Changing the appearance of nose for beauty purposes.

In general, women are 85% more likely to seek rhinoplasty than men, and the majority of rhinoplasty applicants are between 20 and 29 years of age (3). On the other hand, in order to achieve a healthy and satisfying life, and to create an adaptation with oneself and others, it is necessary to have a realistic and decent mental image, and if a person is physically feeling good about himself, he has a greater chance of having a positive body image. However, sometimes stress and anxiety, self-criticism perspective or low self-valuation affect how they feel about their own body, which causes many people to change the appearance of their face and undergo plastic surgery (4).

The body image is defined as the inner embodiments of the body's external aspects. The concept of body image is not fixed. Ideal body image changes due to variables such as media representation, cultural practices, and friends' attitudes. This change of view typically accompanies the change of feelings and thoughts, and even leads to changes in behavior in certain situations (5). Edgerton believes that, cosmetic surgery is in fact cosmetic surgery of the body image, and psychological improvement can be achieved as the body is improved through surgery (6). On the other hand, a change in mental image following visible or invisible changes of the body can have a great effect on the person's personality (7). The findings show that most applicants believe that appearance of their nose causes their shyness, and their life will be changed after rhinoplasty (6). Dissatisfaction with body image can be defined as a distortion of perception, behavior, or cognition of the body weight or body associated with low self-esteem and depression (8).

When one knows his or her appearance is lower than ideal criteria (s), he may face inappropriate feelings and attitudes toward him/herself, such as low self-esteem or self-confidence, or depression and even in some cases academic failure (9). Results of a study on the effect of cosmetic surgery on the mental image of the body among women applying rhinoplasty at age group of 22-25 years in Norway showed that improvement was observed in the mental image of individuals 6 months after surgery (10). Sarwer concluded in his research that after performing cosmetic surgery, people report better body image (11). Previous studies and researches show that people with some mental states such as depression, anxiety and psychosis and also those who suffer from chronic psychiatric disorders, are not suitable candidates for cosmetic surgery (12).

In the case of prognosis of surgery in people who have a brief deformity, it is shown even those with small deformity benefit from surgery and feel better after the surgery (3). However, it is difficult to decide on surgery on people with normal appearance. These people will continue dissatisfaction with their appearance after surgery and there is a possibility of re-

applying for surgery (2). Results of a research on 188 surgical patients with BDD showed after frequent surgeries, 83% of patients reported exacerbation of symptoms or lack of any changes and only symptoms were improved in 17.4% of cases (14 and 13). A further study on all types of cosmetic surgeries on 35 women and 11 men showed that 55% of subjects reported postoperative psychological disturbances (6). In recent years, the demand for cosmetic surgeries and treatments has been increasing for various reasons. There are people among those who are referring to these treatments who suffer from various types of psychological disorders; including BDD and underlying psychological disorders are actually the triggers of these patients for these treatments. On the other hand, numerous studies have shown that cosmetic measures and surgeries not only do not help these patients, but exacerbate the symptoms of these patients in some cases, and the lack of timely and proper diagnosis of underlying disease deprive these patients from psychological treatment, which is the best treatment option for these patients. BDD actually means that a slight defect in the appearance of the patient, or even without any problem, causes severe stress and disruptions in the social life of the individual (15).

The prevalence of this disorder among the general population is reported to be between 1% and 3% (15-18). The prevalence of this disorder is higher among patients referring to cosmetic treatments, for example, the prevalence of BDD was 20.7% among patients referring to rhinoplasty (19). As we know, one of the things that are effective in the prognosis of cosmetic surgery is the right choice of patients. Although in patients with no psychological disorder, cosmetic surgeries significantly improve individuals' body image, this does not occur in patients who are not realistic or have psychological disorders and often dissatisfied with surgery outcome. Therefore, this disorder and its diagnosis among those referring to beauty treatments are more important and must be taken into consideration more than before. Considering the importance and necessity of further studies to understand the psychological factors affecting the tendency toward cosmetic surgery, especially rhinoplasty, and with regard to the high rates of cosmetic surgery especially rhinoplasty in our society, the aim of this study was to investigate the level of body image concern among rhinoplasty applicants before and after surgery.

2- MATERIALS AND METHODS

The present study was a descriptive-analytic study with pretest-posttest design and was carried out using convenience sampling method. The research population consisted of all rhinoplasty applicants in the age range of 16-55 years old that had referred to ENT Clinic of Loghman Hospital in Tehran- Iran, during 2013 to 2015. The inclusion criterion included the request for surgery solely for beauty reasons. Exclusion criteria include those who have 1: nasal congestion or allergic symptoms or a history of sinusitis 2: history of anxiety, depression or any mood disorder or psychiatric disease 3: any chronic heart, lung and kidney disease 4: congenital disorder, neck and head problems including cleft lip and palate, etc. 5: previous rhinoplasty surgery.

Finally, the study was conducted on 60 rhinoplasty applicants. Written consent was obtained from all patients. During the first visit, patients were examined by a professor of the surgical team, and benefits and complications and the necessity of surgery were explained for all patients. Also, the patients were told about the cosmetic surgeries, patient's expectations of surgery and the cause of dissatisfaction with the appearance of the nose. Then

Body Image Concern Inventory and demographic information were completed by all patients before and after the surgery and pre and post-operative levels of body image concern were compared. In the pretest, the questionnaires were provided to the subjects at the appropriate place in the clinic of the hospital. The post-test was performed three months after surgery in the Clinic of Loghman Hospital, in which patients undergoing rhinoplasty entered the second stage of the study. In the second stage, all patients were hospitalized one day before rhinoplasty. All of them underwent open anesthesia. The surgical technique was determined by the surgeon depending on the needs of each patient and all of them underwent the surgery by a trained surgery team. After surgery, the paracetamol drug was prescribed immediately upon withdrawal from the operating room, in order to reduce pain and apply a cold compress. The day after surgery, all patients were discharged and the necessary explanations for necessary postoperative care were given to all patients and the first visit took place one week after surgery. The surgeon's telephone number was provided to the patient so that they can make call if needed. Patients were visited on a weekly basis for 1 month, and then visits were carried out monthly. At the end of the visit, 3 months after the surgery, BICI questionnaire was completed by patients.

The body image concern inventory (BICI) is a 19-item measurement instrument that examines the discontent and concern of the person about his appearance. This instrument consists of 2 factors, the first factor of which is dissatisfaction and embarrassment of one's appearance, examining and concealing perceived defects. The second factor shows the degree of body image concern in the social function of the individual. Littleton et al. (2005) reported Cronbach's alpha coefficient of 0.93, 0.92 and 0.76 respectively for total questions, first and the second factors of this questionnaire (20). The psychometric properties of this instrument have also been reported to be satisfactory in Iranian society (22, 21). BICI questionnaire was used in a study of 117 patients referred for rhinoplasty in Ahvaz. The questionnaire authenticity was evaluated by a psychologist using a clinical interview with DSM IV criteria. Its validity and reliability were calculated 85% and 0.9%, respectively and the cutoff-point of 42 was obtained for positive consideration of BDD. The diagnostic accuracy of the Persian version is 91.4% ($P < 0.001$) in comparison with the gold standard of diagnosis, which is clinical interview. The cutoff-point of 42 showed sensitivity of 93.5% and specificity of 80.8% for BDD diagnosis (22).

The scoring procedure is that the person is asked to score 1 to 5 points for each question showing the amount of his feeling or behavior. Score 1 means that I never had such feeling this or did it. Score 5 means that I always have such feeling or do it. The total score of this questionnaire varies from 19 to 95, with higher score indicating the amount of dissatisfaction with the body image. Statistical analysis was performed using Chi-square and Paired-sample t-test in SPSS Ver.16.0 software.

3- RESULTS

The present study was conducted on 60 rhinoplasty candidates (36 males and 24 females) with mean age (26.7 ± 6.9) with Min ± Max age range of 17 and 48 years (**Table.1**). The mean ±Standard deviation (SD) of BICI scores before and after rhinoplasty were 39.6 ± 10.5 and 46.2 ± 12.4, respectively (from the total score of 95). In other words, after surgical intervention, 16.3 points were added to the total score and this increase was statistically significant ($P<0.001$) (**Table.2**). In investigating the possible

confounding effect of gender on the change in pre and post-operative body image attitude, the findings showed no significant effect in this area (P>0.05). The findings also showed that there was no statistically significant relationship between education, marital status and age of applicants and the level of body image concern (P>0.05).

Table-1: Demographic data of rhinoplasty candidates (n=60)

Variables	Sub-group	Number (Percent)
Gender	Female	24 (40)
	Male	36(60)
Level of education	illiterate	0
	Less than bachelor's degree	48(80)
	Bachelor and higher	12(20)
Marital status	Single	38(63.3)
	Married	21(35)
	Divorced	1(1.6)
Mean (SD) of ages, year		26.7±6.9

Table-2: The comparison of BICI score in rhinoplasty group before and after surgery

The statistics	Before rhinoplasty	After rhinoplasty	P-value
Mean of BICI score	39.6±10.5	46.2±12.4	0.001

4- DISCUSSION

In this study, pre and post-rhinoplasty levels of body image concern were evaluated in patients undergoing rhinoplasty in a 3-month follow up. The findings showed an increase in the level of body image concern among applicants for rhinoplasty. In other words, rhinoplasty could not reduce the level of body image concern among applicants. In fact, the present research showed an increase in the scores of post-rhinoplasty level of body image concern and in fact a negative attitude score. According to learning theories, this finding can be interpreted as the individual will likely to receive positive feedback from others after the cosmetic surgery. Therefore, as the time passes, the individual conclude that his/her post-rhinoplasty positive change has led to enjoy many advantages in the community. She/ he also notices the importance of body image in everyday life and learns that as higher beauty and charm level will lead to an increase in self-esteem, thereby achieving more social success. This change in person's learning increases the person's body image concerns and, in turn, leads to an increase in the body image attitude score. There was no significant relationship between gender and a change in body image attitude score; so it can be said that the learning factors and intra-individual conflicts play a more significant role in the body image is compared with gender. The results of the present research showed that there was no significant difference between the body image of women and men applying for rhinoplasty that is inconsistent with the findings of Pahlavan Zadeh et al. (23), Ricciardelli and McCabe (24) on lower body image satisfaction of girls than boys, Paxton et al. (25), regarding the greater dissatisfaction of in-shape girls with their weight than the same boys, Jones et al. (26), on the more strong relationship between acceptance and dissatisfaction with girls' body image as compared with boys. In justifying these

findings, it can be said that the above findings relate to ordinary people, or in other words, people who may never have taken or even intended to perform cosmetic surgery, but the findings of this study relate to those who have used cosmetic surgery. Therefore, it can be stated that those who carry out a cosmetic surgery have common goals and this operation eliminates the difference between the body image attitude in men and women who avoid attempting these surgeries, according to other scientists.
Several studies have been conducted in the field of cosmetic surgeries in patients with BDD. Many of these studies emphasize the fact that, following cosmetic surgery, BDD symptoms have been changed or may become worse (27) or even can cause concerns that vary from one member to another (28).

Some studies even suggest that cosmetic surgeries in these patients cause legal problems for physicians and even to the point that the patient threatened to murder the surgeon (28). In addition to these findings, there are studies that support rhinoplasty in individuals with mild-moderate BDD that only focus on the nose, including a study on patients with mild-moderate BDD in Brazil. Results show that 80% of post-operative patients recovered from the disorder (29). Considering that the amount of body image concern increased in our study after surgery. The results of our study are more consistent with studies that oppose cosmetic surgery treatments in patients with BDD, so that 80% of surgeons in a study in the United States reported that they don't treat patient with BDD (30). At the meantime, there are people who, based on clinical experience, believe that BDD is not a departure criterion for rhinoplasty (31). Our study seems to be the first study in Iran that examines the change in post-rhinoplasty surgery body image concern. Some of the limitations of this study are as the following: Considering that the degree of body image concern is investigated in a group considered as the rhinoplasty candidate, a large group of patients who were dissatisfied with their nose appearance due to BDD were excluded, because these people will not be candidates for surgery in this scientific center since they have no defect or slight defect in the their nose appearance; therefore, the level of body image concern of the rhinoplasty group is mistakenly reported at lower level. While conducting the study and the surgery, it is preferred that cosmetic surgery be performed by a surgical team in all patients, but because this center is an educational center where there are many rhinoplasty applicants and multiple surgical teams, attempts were made that all patients undergo surgery in the surgical team by a professor.

On the other hand, in order to diagnose the symptoms of BDD, the best way is to hold a psychiatric interview and it is not enough to merely complete the questionnaire. Considering the fact that the referral of the patient to the psychiatrist can reduce the patients' level of cooperation, we sufficed to the completion of the questionnaire in order to diagnose the disorder. The use of self-report instruments is associated with the problem; namely, subjects may not exhibit complete honesty in expressing their own problems and answering the questionnaires; According to surgeons, it may take up to six months to see the final tip shape, and before six months due to complications such as swelling and bruising, it is early to make assessment regarding the degree of body image change and the consequent change in the attitude of the individual. Considering the time limit of the present study, this duration was considered three months after the operation. In order to clarify the conclusions of this study, further qualitative methods (such as in-depth interviews) are recommended in future

studies. Also, it is recommended to use predictive variables (such as self-esteem, social support and obsessive-compulsive therapy, etc.) to perform better explanation, and identify relationship between rhinoplasty with other psychological dimensions (such as mental health, personality disorders, emotional disorders and adaptation), so that the impact of rhinoplasty can be in other psychological dimensions. Finally, it is recommended to use pretest-posttest design with control group for future researches to control the role of intervening variables in the research.

5- CONCLUSION

In this study, rhinoplasty increased the level of body image concern. In general, consistent with previous studies, the importance of psychological factors was also demonstrated in the present study; rather than expecting a successful cosmetic surgery to improve the psychological factors (positive attitude to the body image), it should be noted that the psychological factors play a great role both in the demand for both cosmetic surgery and its consequences. Therefore, it is important to investigate these factors before surgery. Now, controlled studies with longer follow-up times seem to be needed to assess the position of cosmetic surgery in patients with BDD.

6- CONFLICT OF INTEREST: None.

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