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## Survey of Relationship between body image and mental health among applicants for rhinoplasty before and after surgery

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### Abstract

The main goal of this study was survey of the relationship between body image and mental health of applicants for rhinoplasty before and after surgery. The participants were 100 females that referred to the rhinoplasty surgery clinics in Arak city during 2010. The simple random sampling method was used for selection of participants. Data were collected using multidimensional body-self relation questionnaire (MBSRQ) and General Health Questionnaire (GHQ). The study design was descriptive cross-sectional and correlation type. For data analysis Pearson product moment correlation was used. The results showed that there was significant correlation between body image and mental health before and after surgery ( $p < 0/01$ ). There were negative correlations among mental health, depression, and evaluation of physical appearance, satisfaction with body aspects before and after surgery; and there was a positive correlation among mental health, anxiety and attention to appearance, preoccupation with overweight, as well as positive correlations among mental health, depression, physical problems and attention to appearance and negative correlation between depression and appearance evaluation after surgery.

*Keywords:* body image, mental health, Rhinoplasty, Surgery;

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### 1. Introduction

In the modern society of today, a large number of females suffer from dissatisfaction about their physical appearance, since their mental ideal images are far from their perceived self image. In order that these people to stand up to their dissatisfy feeling refer to surgery clinics to change themselves, rather than changing their ideal images. In as much as the main part of females' self esteem lies on preserving relations and interactions. Females underestimate and males overestimate their abilities (Perocheska, & Nourkerass, 2001). Such negative messages and biased attitudes of community, especially males toward females have led to extreme attention of females to their appearance and beauty. On the other hand in recent years, social, physical and cultural factors along with the development of surgical techniques have led to increasing application for rhinoplasty. Review of literature showed that this application was most often the consequence of psychological distress (Thomson et al, 1978). Researches have revealed that prevalence of psychopathology in patients who demanded rhinoplasty was high; in the latest studies, these findings have been confirmed (Jerome 1992; Thomas & Goldberg 1995). Therefore, it is apparent that

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the main problem and coping mechanism with such feelings of dissatisfaction should be sought in another domain. It is worth of mentioning that there are only a few people who find their problem in self -image or self-evaluation. Regarding that various people with different motivations request this operation, it is probable that a number of patients who seek rhinoplasty, suffer from a disorder in their body image. Additionally, investigating a relation between body image and mental health can contribute to defining of rhinoplasty applicants' characteristics. Mental health is a successful function of mental activities which results in beneficial and satisfying activities, interactions with other people and the ability to coping with changes and confrontation with individual's cultural-bound problems (World health organization, 2002). Body image has been defined as a mental perception of body. The disorder refers to the attitudes of an individual toward physical self . Like all the attitudes, this attitude encompasses evaluative, cognitive and behavioral components. Furthermore, physical self includes not only physical appearance but also body fitness (Sarwer, 2003). Those who undergo cosmetic surgery are looking after gaining more attractive body or face and probably suffer psychologically more than average of other people in community (Brown, 2001). There is solid evidence that those who undergo optional rhinoplasty are more likely to suicide. The above mentioned issue is based on a research that showed those who suffer from disorders in their body, are likely to be preoccupied with that part of body, and to be at suicide risk, 45 times more than normal extent (Mc Ginnes, 2004). As Mc Laughlin (2005) indicated women seeking cosmetic operation suffer more likely from psychological problems, and it is probable that these problems result in ideas and attempts for suicide. According to studies and surveys of British medical journal, 6% to 15 % of females that undergo cosmetic surgery are body dysmorphic disorder sufferer. It confirms our claim that the major problem of these people is psychological, not physical (Mc Ginnes, 2004); Thus those who refer to cosmetic surgery clinics require more than surgery and some of them don't need surgery at all. In a study carried out by Philips, McElroy, Keck & Hudson (1993) high levels of dysmorphic body concern have been in group with Body Dysmorphic Disorder (BDD). Their survey demonstrated that 73 percent of body dysmorphic disorder sufferer appraises themselves compulsively in the mirror, 63 percent of them are preoccupied with camouflaging defect, and 97 percent of them attempt not to appear in the social situations, so they reveal their anxiety at this way. Body dysmorphic concern seems to have some common symptoms with eating disorder (Rosen et al, 1995). The study of Rosen et al (1995) on patients who had anorexia and bulimia, showed that there was also very high level of anxiety in these people, and included dissatisfaction with appearance, constant self checking in mirror and covering behaviors. In fact they found that eating-disordered patients similar to body dysmorphic disordered ones were of very high level of anxiety. A research undertaken by Gipson and Connolly (1978) on patients seeking breast cosmetic surgery revealed that this operation increased the quality of life, whereas it didn't improve mental health, self esteem and or body image. Dissatisfaction with body image in females seeking eyelid cosmetic surgery and rhinoplasty was studied by Sarwer et al (2003) . In as much as there is little amount of the studies at this field in our country doing this research seemed necessary and important. The results of this study can be used in consulting and clinical centers in order to help to these patients.

## **2. Methodology**

The study design was a quasi-experimental one, and it was undertaken in the form of pretest-posttest.

### *2.1. Population, sample size, and sampling method*

Statistical population of the present study included all the specialized clinics for rhinoplastic surgery, situated at Arak city, in 2010. It comprised all the patients who had referred to these centers during one year (N=4000). The sample of current research included 100 female (20-40 years old) applicants for rhinoplasty. The participants were selected among all of patients, using convenience sampling method. For the purpose of sampling following Criteria

were used: being female (because of great number of female patients for cosmetic surgery), rhinoplasty (because of cosmetic reasons and being option of patients who had referred to these clinics for the first time) and exclusion criteria: Rhinoplasty with non cosmetic purposes.

### 2.1.1. Instruments of collecting data

Body Image questionnaire: It is known as the Multidimensional Body-Self Relations Questionnaire (MBSRQ). It is a validated questionnaire for the assessment of body image. It was developed by Cash in 1990. It can be used for adolescents and adults. Short form of this questionnaire included 34 items with five subscales: appearance evaluation, attitude toward appearance, preoccupation with overweight, weight categorization perception, and satisfaction from parts of body. Rang of scores in this measure was from 34 to170. The participants answered the questions of this questionnaire with five-choice scale.

Cronbach alpha for the subscale of appearance evaluation in males and females was 0.88 retest of this subscale showed 0.81 in males and 0.91 in females.

General Health Questionnaire (GHQ-28): This questionnaire contains 28 items which was developed by Goldberg & Hiller (1979) using factor analysis. It includes four scales which assess Physical symptoms, Anxiety, depression and social act disorder and every scale is consisting of seven questions. The studies undertaken indicated high validity and reliability of this questionnaire. Goldberg and Williamz (1989) reported its sensitivity and specifity 0.084, 0.082 respectively in analysis of 43 investigations, Coefficient of Reliability and Cronbach alpha were 0.88.

#### 2. 1.1.1. Method of collecting data

The procedure of this study initially included gaining consent from participants, and then questionnaires of body image (MBSRQ) and GHQ-28 were distributed individually to them as they referred to the clinics. They were asked to respond to the questions and mention their call number and address in answer sheets, in order to have access to them three months later. Three months after first sampling (before surgery) , the participants were called, and with pre- arrangement the questionnaires were distributed for the second time (after surgery).

### 3. Results of study

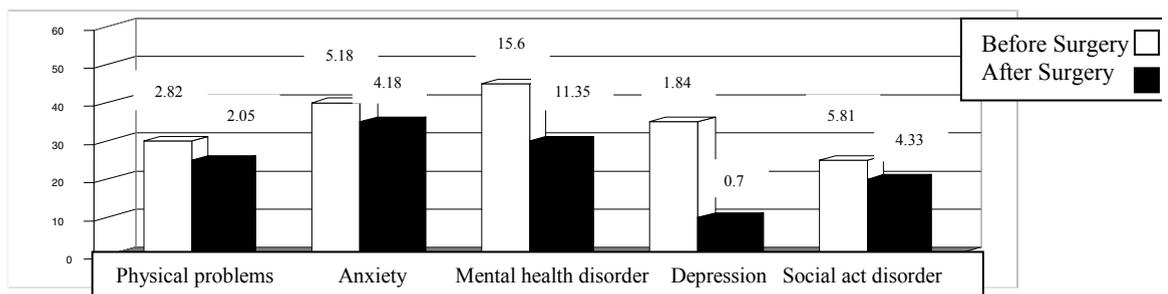


Diagram1. Mean of rhinoplasty applicants before and after surgery in components of mental health

As Diagram (1) displayed, the mean of components (physical problems, anxiety, social act disorder, depression and mental health disorder) in rhinoplasty applicants varied before and after surgery. So, before surgery, respectively the

obtained mean and standard deviation were (2.82), (1.10) in physical problems component; in anxiety component (5.18), (1.25); in social act disorder component, (5.81), (1.06); in depression component (1.84), (1.14); in mental health disorder component, (15.66), (2.84). Additionally, after surgery, respectively the obtained mean and standard deviation were as follows: physical problems component (2.05), (0.86), anxiety (4.18), (1.05), social act disorder (4.33), (1.17), depression (0.79), (0.72) and in the component of mental health disorder (11.35), (2.13).

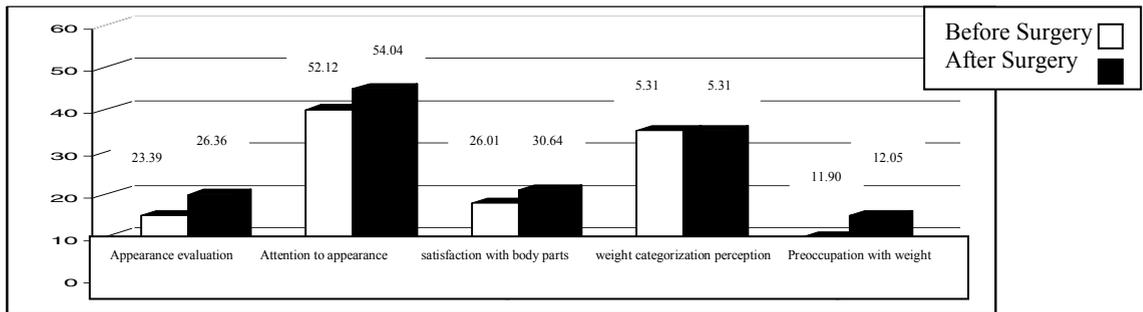


Diagram 2. The mean of rhinoplasty applicants, before and after surgery in components of body image

As it was shown in Diagram (2) mean in scores of appearance evaluation, attention to appearance, satisfaction with body parts, and Preoccupation with weight varied in applicants for rhinoplasty, before and after surgery. In the way that, before surgery respectively, the obtained mean and standard deviation in each component were as following: in appearance evaluation component (23.39) , (0.67) , in attention to appearance component (52.12) ,(0.37) about satisfaction with body parts component (26.01) , (0.69) in preoccupation with weight (12.05), (0.66) and weight categorization perception component (5.31), (0.97). After surgery, the calculated mean and standard deviation were respectively in the component of appearance evaluation (26.36) and (0.68), in attention to appearance (54.04) and (0.36), in satisfaction with body parts (30.64) and (0.60), in Preoccupation with weight (11.90) and (0.67), in the component of weight categorization perception (5.31) and (1.05).

Table 1. Correlated t for body image and mental health in the applicants for rhinoplasty before and after surgery

variables	MD	Sd	t	df	sig
Physical problems	0.77	1.01	7.59	99	0.00
anxiety	1.00	0.87	11.41	99	0.00
Social act disorder	1.48	1.15	12.77	99	0.00
depression	1.05	0.85	12.24	99	0.00
Mental health problems	4.31	2.29	18.81	99	0.00
Evaluation of appearance	-2.97	3.82	-7.76	99	0.00
Attention to appearance	-1.92	2.53	-7.56	99	0.00
satisfaction with body aspects	-4.63	5.02	-9.21	99	0.00
Preoccupation with weight	0.15	0.78	1.91	99	0.05
weight categorization perception	0.00	0.71	0.00	99	1.00

As it is appeared in table 1, there was a significant difference between mean of rhinoplasty applicants' scores, before and after surgery, in different areas related to mental health (physical problems, anxiety, social act disorder, depression, and mental health problems); And also related to body image (appearance evaluation, attention to appearance and satisfaction with body aspects), a significant difference was observed (P<0.05); As in all of these cases improvement has been observed after surgery. In respect of Preoccupation with weight and weight categorization perception no significant difference was observed.

Table 2. Correlation coefficients between components of body image and mental health in the applicants for rhinoplasty before and after surgery

Components of body image		Physical problems	Anxiety	Physical act disorder	Depression	Mental health problem
Evaluation of appearance	Before surgery	-0.147	0.102-	0.029-	**0.449-	**0.297-
	After surgery	-0.175	0.015	0.130	**0.262-	0.082-
Attention to appearance	Before surgery	0.175	**0.267	0.002-	0.049	*0.210
	After surgery	*0.225	0.155	0.031	*0.210	**0.257
Satisfaction with parts of body	Before surgery	*-0.248	*0.234-	0.036-	**0.275-	**0.323
	After surgery	0.045-	0.183-	0.146	0.095-	0.061-
Preoccupation with weight	Before surgery	0.166	**0.358	0.094	0.007-	*0.253
	After surgery	0.195	0.161	-0.085	0.046	0.128
Weight categorization perception	Before surgery	0.054	*-0.252	0.064-	0.114	0.105-
	After surgery	0.025	0.134-	-0.026	0.135	0.024-

As it was shown in table 2, before surgery, the component of appearance evaluation showed a negative correlation with depression and mental health problem. That is to say, the more depression and mental health problem, the more undesirable appearance evaluations are in that person. However, after surgery it only revealed a negative correlation with depression. The component of attention to appearance before surgery displayed a positive correlation with anxiety and mental health problem, i.e. the more anxiety and mental health problems the more individual's attention to her appearance. After surgery, the component of attention to appearance showed a positive correlation with physical problems, depression and mental health problems, i.e. the more a person suffers from physical problems, depression and mental health problems, the more she attend to her appearance. The component of evaluation of body aspects before surgery showed negative correlation with physical problems, anxiety, depression and mental health problems, i.e. the more a sufferer's physical problems, anxiety, depression and mental health problems, the less desired the evaluation of body aspects. Thus, this hypothesis was affirmed indicating that there is a relationship between body image and mental health.

#### 4. Discussion and conclusion

The outcome of the present study showed that there was a relationship between body image and mental health. These findings were concordant with other researches e.g. (Jerome, 1992; Thomas and Goldberg, 1995; Philips, McElroy, Keck, Hudson, 1993; Gipson and Connolly, 1978; Brown, 2001; Sarwer, 2003; Mc Ginnes, 2004; Mc Laughlin, 2005). This research demonstrated that before and after surgery, there were negative correlations among mental health, depression and appearance evaluation, satisfaction with body aspects, and there were positive correlations among mental health, anxiety and attention to appearance, preoccupation with weight in applicants for rhinoplasty; Additionally, after surgery positive correlation was detected between mental health, depression, physical problems and attention to appearance and a negative one between depression and appearance evaluation. This finding was in line with that of Mc Grath and Mukerji (2002) in which they indicated that those women who had less security and satisfaction with their body, it was more probable to purchase cosmetic products or diet and weight loss products. Mc Grath and Mukerji expressed that applicants compared to non-applicants had low level of satisfaction with body shape. Thus it can be concluded applicants of cosmetic surgery had not been able to solve their problems concerned with the distance between perceived self and ideal self image. Moreover, this outcome was in agreement with the findings of Greenberg's study (1999) in which cosmetic surgery applicants expressed high levels of dissatisfaction with body and depression compared to non-applicants. Furthermore Philips (2001) showed that non-satisfaction with body and appearance led to more depression, which in turn it increased the suicidal thinking in applicants for rhinoplasty compared to non-applicants. In the current study the number of those individuals who suffered from disorders in body image and mental health was determined.

In respect to mental health, the percentage of sufferers from physical problems was 24 before surgery and 28 after surgery, those of anxiety was 15% before surgery and 11 % after surgery, of social act disorder 27 % before surgery and 13% after surgery, of depression 31% before surgery and 18 % after surgery, and of mental health problems 14% before surgery and 12% after surgery. Concerning body image, the percentage of patients who had low evaluations of their appearance was 3% before surgery and 1% after surgery. For those with extreme attention to appearance the obtained percentage was 85% before surgery and 95% after surgery, for the amount of dissatisfaction with body parts it was 12% before surgery and 1% after surgery, in respect of preoccupation with weight it was 22% before surgery and 20% after surgery, for obesity perception the obtained percentage was 17% before surgery and 19 % after surgery, for atrophy perception before and after surgery it was 16%.

By reviewing the results of the current study, the main findings of this research were presented as follows:

1. According to statistical method of correlated t, mental health scores and body image in applicants for rhinoplasty before and after surgery was significant. After surgery the mental health and physical image of applicants were improved.
2. Using Pearson correlation as statistical method, it was identified that there was a correlation between physical image and mental health before and after surgery.

Selection of cosmetic surgery types with noticeable variance allows comparison of psychological status in people referring to those types of surgery. According to the research study findings, psychological intervention in cosmetic surgery applicants before surgery, and assessment of their trends to the surgery after the interventions is important and necessary.

## References

- Brown, B. (2001). Body image and femininity. *British journal of Medical psychology*, 59, 279-287.
- Gipson, M. Connolly, F. (1978). Dismorphophobia. A long-term study. *Br J Psychiatry*, 132, 568-570.
- Gold, M. Hiller, F. (1979). The incidence of schizophrenia and severe psychological disorders in patients 10 years after cosmetic rhinoplasty. *Br J Psychiatry*, 28, 3-18.
- Goldberg, J.M. Williamz, M. (1989). *Changing the body: psychological effects of plastic surgery* Williams & Wilkins, Baltimore, Maryland.
- Greenberg, J. (1999). Comorbid social anxiety disorder and body dysmorphic disorder: managing the complicated patient, *Journal of Clinical Psychiatry*, 60, 27-31.
- Jerome, L. (1992). Body dysmorphic disorder: A controlled study of patients requesting cosmetic rhinoplasty. *American Journal of Psychiatry*, 149, 577.
- Mc Ginnes, B. (2004). Dr. Retrieved, Dec, 2006 from <http://fims.uwo.ca/newmedia.2005/default.asp?Id=80>.
- Mc Grath, M.H. Mukerji, S. (2002). Plastic surgery and the teenage patient. *Journal of Pediatr Adolesc gynecol*, 13, 105-118.
- Mc Laughlin, J. (2005). Psychological factors associated with dieting behaviours among female adolescents, *Journal of School Health*, 69, 196-201.
- Perocheska, S. Nourkerass, S. (2001). A look at our obsession with dieting, body image, *Women's Health Matters*, 65, 12-35.
- Philips, K.A. (2001). Body dysmorphic disorder: the distress of imagined ugliness. *American Journal of Psychiatry*, 148, 1138-1149.
- Philips, K.A. McElroy, S.L. Keck, J.R. Hudson, J.L. (1993). Body dysmorphic disorder: 30 case of imagined ugliness. *American Journal of Psychiatry*, 150, 302-8.
- Rosen, J.C. Reiter, j. Oronson, P. (1995). Cognitive behavioral body image therapy for body dysmorphic disorder. *Journal of Consulting and Clinical Psychology*, 63, 263-269.
- Sarwer, D.B. Crerand, C.E. Didie, E.R. (2003). Body dysmorphic disorder in cosmetic surgery patients. *Facial Plastic Surgery*, 19, 7-18.
- Sarwer, D.B. Linton, A. Whitaker, T.A. Pertschuk, J. (2003). Body image dissatisfaction in women seeking rhytidectomy or blepharoplasty, 17, 4-16.
- Thomas, C.S. Goldberg, D.P. (1995). Appearance, body image and distress in facial dysmorphophobia. *Acta Psychiatrica Scand*, 92, 231-236.
- Thomson, J.A. Knorr, N.J. Edgerton, M.T. (1978). Cosmetic surgery: the psychiatric perspective. *Psychosomatics*, 19, 7-15.
- World Health Organization, (WHO), 2002.