Original Article

The Body Image Dissatisfaction and Psychological Symptoms among Invasive and Minimally Invasive Aesthetic Surgery Patients

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ABSTRACT

BACKGROUND
Elective aesthetic surgeries are increasing in the Iranian population with reasons linked to body image dissatisfaction and psychological symptoms. This study compared the body image dissatisfaction and psychological symptoms among invasive and minimally invasive aesthetic surgery patients and a control group.

METHODS
Data from 90 participants (invasive aesthetic surgery=30 Ss, minimally invasive aesthetic surgery=30 Ss, and control group=30 Ss) were included. Subjects were assessed on body image dissatisfaction and psychological symptoms to provide an evidence for a continuum of body image dissatisfaction, anxiety, depression and interpersonal sensitivity in invasive and minimally invasive aesthetic surgery clients.

RESULTS
Between the three groups of invasive, minimally invasive aesthetic surgeries and control on body image dissatisfaction and psychological symptoms (anxiety, depression and interpersonal sensitivity), there was a significant difference.

CONCLUSION
These findings have implications for pre-surgical assessment as well as psychological interventions rather than invasive medical interventions at first step.

KEYWORDS
Body image dissatisfaction; Psychological symptoms; Aesthetic surgery; Iran

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INTRODUCTION

According to the American Society of Plastic Surgeons (ASPS), 14.6 million aesthetic procedures were performed in 2012.[1] The ASPS reported an increase of 77% from 2000 to 2012, both in invasive and minimally invasive aesthetic surgeries. Likely,

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in Iran, the number of performed aesthetic procedures is under representative of the actual number of aesthetic procedures in part due to numerous physicians from other specialties who offer aesthetic interventions. The ASPS reported that in 2012, minimally invasive aesthetic procedures (e.g., Botox) were the most popular, followed by reconstructive procedures (e.g., tumor removal), and finally invasive aesthetic procedures (e.g., breast augmentation). Advances in the safety of aesthetic surgery and the reduction of expenses contributed to lesser anxiety in those who pursue aesthetic surgeries.[2]

Some researchers attributed the increase in popularity for aesthetic procedures to negative body image because they believed that one's physical appearance was based upon which an individual's body image was psychologically built.[3,4] In fact, the only rationale for performing aesthetic plastic surgery is to improve the patient's psychological well-being.[3]

Two types of motives for seeking aesthetic surgery have been found, one is social and the other is intrapersonal. A meta-analysis focusing on the influence of media found that exposure to presentations of an ideal thin image for women is related to body image concerns.[5,6] It was shown that an increase in accepting aesthetic surgery is due to a decrease in satisfaction with physical appearance, older age and worries of becoming unattractive.[7] The media appears to have a powerful effect on body image evaluation and consideration of aesthetic surgery.[8-10]

Females and males, specifically undergraduates who believe that others reject them because of the way they look, land up with increase in body image dissatisfaction which may brings on acceptance of aesthetic surgery.[11] Several studies have shown postoperative improvements in body image concerns,[12-16] while other studies indicated aesthetic surgery did not typically improve overall body dissatisfaction.[17,18] Body image concerns can cause significant distress for individuals and affect negatively on quality of life, interpersonal relationships and educational/occupational functioning,[19] and may be associated with mental health problems such as depression and anxiety.[20]

The purpose of present research was to evaluate the body image dissatisfaction and psychological problems in invasive and minimally invasive aesthetic surgery clients with control group. An overarching goal of this study was to show clearly a continuum of body image dissatisfaction and poor psychological status, associated with seeking elective aesthetic surgery. Given the current literature, it is hypothesized that (i) there is a significant difference in body image dissatisfaction between the three groups of invasive and minimally invasive aesthetic surgeries and control and (ii) there is a significant difference in psychological symptoms (anxiety, depression and interpersonal sensitivity) between the three groups of invasive, minimally invasive aesthetic surgeries and control.

MATERIALS AND METHODS

Research population included all clients who visited cosmetic professional private office in Tehran for doing aesthetic surgery. The sample group consisted of 90 subjects (aged 25-45 years old) in three groups of 30, the clients of invasive cosmetic surgery (including 21 volunteers of rhinoplasty and 9 volunteers of breast augmentation), with mean age of 32.5 years, minimally invasive cosmetic surgery (10 volunteers of botox injection, 13 gel injection and injection soft tissue fillers and 7 volunteers of microderm-abrasion), with mean age of 34 years, and control group. Selection of control group was based on cluster sampling method.

In this case, sample group of invasive cosmetic surgery was chosen from those clients who approached one of the plastic surgeons offices in order to perform the surgery in Tehran. The samples of minimally-invasive cosmetic surgery were selected from those referred to one of the minimally-invasive cosmetic service provider centers. Also, from different departmental centers of Iran University of Medical Sciences, randomly 4 departments were selected and 30 employees were chosen as control group. Control group was matched with aesthetic surgery group based on age and education.

The entry criteria included gender (female), age (25-45 years), education (minimum high school graduation), and having no history of any previous cosmetic surgery (ranging from minimally-invasive to invasive). Initially, the purpose of conducting this research was explained to participants. Then the clients were asked to read and sign a testimonial if they wish to participate in this research. Subsequently, questionnaires were given, and they were asked

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to answer questions fully and if the questions seemed ambiguous, they could reach researcher's help. If they wish to opt out of participating in the research program because of fatigue or any other reasons, questionnaires were taken away by researcher and the participants could quit from the study. The data were gathered through Symptom Check List-90-R, and body image concerns questionnaire. After collecting the data, these data were analyzed through analysis of variance (F), followed by paired comparisons.

Participants were asked demographic information regarding their age, gender, education and past and current history of aesthetic surgery. In reference to aesthetic surgery, the following two questions were asked: (a) "Have you ever considered cosmetic surgery?" and (b) "Have you ever had cosmetic surgery?" Participants who considered getting cosmetic surgery indicated their purpose for doing so. Those who had cosmetic surgery were asked how many times it was performed and whether it was for reconstructive reasons.

The inventory was constructed by Littleton *et al*., which contained 19 items that assessed dissatisfaction and concerns about the person's appearance. On this tool, the respondents were asked about any of the items, and the amount of emotion or behavior they express, on a grading scale of 1 to 5. On this scale, a score of 1 indicated (I've never had that feeling or do not have) and a score of 5 indicates (so I always feel like this). The total scores, varied between 19 and 95. Those who earned higher scores indicated a high level of body image or appearance dissatisfaction.[21] It was shown that the reliability and validity of this tool was highly desirable. Validity was evaluated by using internal consistency and Cronbach's alpha coefficient and it was found to be 0.93.[21]

The Symptom Check list-90-R was a reliable and valid German multidimensional self-report symptom questionnaire. It provided an estimation of experienced pathology in eight domains of phobic anxiety, anxiety, depression, somatization, obsessive-compulsive problems, interpersonal sensitivity, hostility and sleeping problems. The internal consistency was high, and the alpha ranged from 0.70 to 0.89.[22]

RESULTS

As it is shown in Table 1, there are significant differences in tree groups on the findings of body image concerns inventory F (2,87)=183.399, $p<0.001$, and its subscales namely appearance dissatisfaction F (2,87)=154.709, $p<0.001$ and, interaction of appearance social function F (2,87)=28.156, $p<0.001$.

Table 2 shows significant differences ($p<0.01$) on paired comparisons in 3 groups on above

Table 1: Analysis of variance of body image concerns.

Variable	Sources of change	SS	df	M^2	F
Appearance Dissatisfaction	Intergroup	9408.822	2	4704.411	154.709****
	Intragroup	2645.500	87	30.408	
	Total	12054.322	89		
Interaction of appearance and social function	Intergroup	1058.489	2	529.244	28.156****
	Intragroup	1635.333	87	18.797	
	Total	2693.822	89		
Body image concerns	Intergroup	17775.800	2	8887.900	183.399****
	Intragroup	4216.200	87	48.462	
	Total	21992.000	89		

****$p<0.001$

Table 2: Paired comparisons of 3 groups on body image variables.

Variable	Means differences		
	Invasive-minimally invasive	Invasive-control	Minimally invasive- control
Appearance dissatisfaction	8.400**	24.633**	16.233**
Interaction of appearance and social function	4.133**	8.400**	4.267**
Body image concerns	13.700**	34.200**	20.500**

**$p<0.01$

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mentioned variables. It indicates that invasive and minimally invasive aesthetic surgery clients have more problems on body image dissatisfaction than control group in which invasive aesthetic surgery clients problems are greater.

As it is shown in Table 3 there are significant differences in 3 groups of this research study on the findings of psychological symptoms through SCL-90-R namely, interpersonal sensitivity F (2,87)=3.091, $p<0.05$, anxiety F (2,87)=3.499, $p<0.05$, and depression F (2,87)=3.639, $p<0.05$.

Table 4 shows significant differences ($p<0.05$) on paired comparisons only between invasive aesthetic surgery group and control group on all the 3 variables. Whereas there are no significant differences between invasive and minimally invasive aesthetic surgery groups, and between minimally invasive aesthetic surgery group and control group.

DISCUSSION

The main purpose of this study was to compare the body image dissatisfaction and psychological status of invasive and minimally invasive aesthetic surgery applicants with control group. The findings of this study showed that body image dissatisfaction in invasive aesthetic surgery group was higher than other two groups.

In addition, minimally invasive surgery applicants showed more dissatisfaction than control group. Scores of invasive aesthetic surgery group in both appearance dissatisfaction and, interaction of appearance and social function were higher than the other two groups. This may relate to the consideration that some people diagnosed with the most severe type of body image disturbance would cope with these problems by seeking elective aesthetic surgery. This finding is consistent with previous findings.[6,23]

But a number of studies showed similar levels of investment that appear between patients and control group.[3,24] It was demonstrated that more investing on body image is accompanied with applicant's tendencies for aesthetic surgery.[23] Greater investing on body image in those who get the big part of their confidence from their body image can lead to lack of consent and with high probability, they choose cosmetic treatments. By contrast, this would be seen less in those who invest minimally and do not have body image dissatisfaction.[4] So, the lack of physical satisfaction as motivational catalyst causes seeking medical treatments.[25]

People who have high psychological investment on their appearance and the more they form appearance schema, they are more likely to experience body image dissatisfaction. For people who have high body image dissatisfaction, tend to do aesthetic surgery as a coping strategy in order to reduce unwanted and intrusive thoughts.[20] In addition, some researchers suggested that after

Table 3: Analysis of variance of psychological symptoms.

Variable	Sources of change	SS	df	M^2	F
Interpersonal sensitivity	Intergroup	0.755	2	0.378	3.091*
	Intragroup	10.628	87	0.122	
	Total	11.383	89		
Anxiety	Intergroup	0.733	2	0.367	3.499*
	Intragroup	9.119	87	0.105	
	Total	9.852	89		
Depression	Intergroup	0.778	2	0.389	3.639*
	Intragroup	9.298	87	0.107	
	Total	10.076	89		

*$p<0.05$

Table 4: Paired comparisons of 3 groups on psychological symptoms variables

Variable	Mean differences		
	Invasive-minimally invasive	Invasive-control	Minimally invasive- control
Interpersonal sensitivity	0.053	0.215*	0.162
Anxiety	0.067	0.216*	0.149
Depression	0.078	0.224*	0.146

*$p<0.05$

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the operation, recovery can be seen in the body image dissatisfaction.[13-15]

Thus it can be said that psychological symptoms such as anxiety, depression and interpersonal sensitivity respectively can be seen in the group of invasive aesthetic surgery more than minimally invasive surgery and the control group. This finding is consistent with previous findings.[19,20,26]

In the discussion raised by schema therapy, people who have dysfunctional schema about their appearance, accept consistent information and ignore information that is in conflict with their schemas, that causes negative emotions such as anxiety, shame or sadness. So people who have more body image dissatisfaction, experience more negative emotions.[27] Some researchers in their studies showed that 70% of these individuals had psychiatric disorder, most commonly diagnosed depression, passive-aggressive personality and neuroticism.[4,28]

The necessity of evaluating the applicant's aesthetic surgery in terms of psychological problems is important because the result of the present research reflects more signs of psychological problems among applicants. The previous aesthetic surgery studies also confirmed this finding. On the other hand, applicants who had body image dissatisfaction continues to be dissatisfied with their body image after surgery, compared to those who do not have body image dissatisfaction.[13,14,20]

Some important limitations must be noted in this study. It would be valuable to address this population with prospective methodology and follow subsamples to determine whether they actually seek surgery. Related to this, there would be increased validity in these findings if clinical samples (not only aesthetic surgery applicants) of those seeking aesthetic surgery with and without body dysmorphic disorder were used. According to the findings of this research, it is recommended that the psychological problems of aesthetic surgery clients should be evaluated and treated before the surgery.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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