

Research Paper: Comparison of Mental Health and Self-Image between the Applicants and Non-Applicants of Cosmetic Surgery



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ABSTRACT

Background: Given the importance of surgery due to its high rank in Iran and its exorbitant costs, this study aimed to examine the mental health and self-image among the applicants of cosmetic surgery.

Methods: The study sample consisted of 180 individuals (90 applicants and 90 non-applicants) by using simple random sampling. Research tools were SCL90, Beck's self-image, and demographic questionnaires. Data were analyzed using simple correlation, χ^2 , and multivariate statistics.

Results: Results indicated that there were significant differences in obsession-compulsion, sensitivity in interpersonal relationships, depression, physical attractiveness, and social skills between two groups ($\text{Sig} < 0.05$). The scores of mental health and self-image among cosmetic surgery applicants were significantly lower than non-applicants.

Conclusion: Therefore, clinical interviews and psychological counselling by psychiatric and psychologists is recommended, especially before cosmetic surgery.

Introduction

Tendency toward beauty and worry about appearance is normal according to the social framework and it even indicates mental health. However nowadays, due to overemphasis on physical appearance in media and fashion magazines, attention to the body has extremely increased [1]. Medical processes have changed the meaning of

beauty from a biological trait to an adventitious one [2]. This phenomenon is called plastic surgery; the greatest possible help to those who are dissatisfied with their body and appearance [3]. Artificial beauty is usually identified by lip augmentation, cheek implant; miniaturizing nose, tooth jewelry and piercing [3]. According to Mc Laughlin study, women who seek cosmetic surgery are most likely suffer from psychological problems such as OCD, depression and body

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dysmorphic which may result in their suicidal behaviors than others [4]. Performing cosmetic surgery on people who suffer from mental disorders can cause problems for the patient and surgeon [5]. Also the status of mental health plays a more important role in patient satisfaction than the surgical technique by itself after cosmetic surgery [6]. The first modern cosmetic surgery was performed in 1928 in Iran which belongs to nearly 87 years ago. Recent years, the demand for plastic surgeries has increased extremely, about 30000 cases per year [4]. In 1994, the American Society of Plastic Surgeons (ASPS) reported its applicants more than 390,000 individuals, including liposuction, breast augmentation, rhinoplasty and facelift surgery [7]. In 2003, 3.8 million people had undergone cosmetic surgery in America [8]. The amount of plastic surgery in the United States was about 10.2 million cases in 2005 which was increased to 11.7 million ones in 2007 [9]. In 2009, the Society of Plastic Surgeons of America estimated that the number of cosmetic surgeries will reach to 12.1 million in 2008 [10]. Reports indicate that cosmetic surgeries have become the main concerns in recent years in Iran due to their increasing demands which grew up to 80 percent [11]. In 2009, 25 to 30 million cosmetic surgeries were performed in America out of which 60 percent were related to rhinoplasty and the rest were related to other cosmetic and plastic surgeries. Iran for face surgery and breast/abdomen surgery, is in the fourth and second places respectively and likely two women lose their life through cosmetic surgeries [12]. Surgeons always intent to diagnose those who are not suitable for surgery. Psychiatric studies on people seeking beauty were emerged since the decade 1960-1970. These reports reflect the trends of psychoanalysis as neurotic or narcissistic cases [12]. Clinical interview-based psychological evaluations on patients before cosmetic procedures have reported remarkable psychological disorders among them [13]. It seems that the tendency toward cosmetic surgery is based on a combination of psychological, emotional, and personal factors. However, few studies have developed and examined the psychological and personal features among cosmetic surgery applicants in Iran. For instance Pasha et al showed that there is a significant difference between applicants and non-applicants in mental health and self-concept in Iran [14]. Also, Khanjani et al reported that more than half of rhinoplasty candidates had at least an abnormal psychological symptom and their statistics were higher than the general population significantly [15]. Khanjani et al showed that the volunteers of cosmetic surgery have more obsessive-compulsive disorders compared with the control group [15]. So, the purpose of this study was to examine the mental health and self-image between

applicants and non-applicants of cosmetic surgery.

Methods

The sample size was calculated by Cochran's formula ($N=120$). Then 90 plastic surgery applicants and 90 non-applicants were selected by accessible sampling method from surgery clinics and hospitals in Sanandaj city. The questionnaires included demographic questionnaire, symptoms checklist-90 (SCL-90), and Beck Self-concept test (BSCT).

SCL-90 is one of the most popular instruments for psychiatric assessment in the United States. It is a self-report inventory with 90 items for assessing the psychological symptoms. It was primarily designed to evaluate the psychological status of medical/psychiatric patients and distinguish the abnormal individuals. The SCL-90 was developed by Derogatis et al. in 1973. Later it was revised based on clinical experiences and psychometrics analysis. Each item of this questionnaire has a five-point scale of distress, ranging from 0 (none) to 4 (extreme). The obtained scores indicate nine dimensions of disorder symptoms including somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid, psychoticism; and three global indices. Seven items of this questionnaire do not belong to these nine dimensions but contribute to the general indices of questionnaire cumulatively [16]. Derogatis, Rickels & Rock have measured the internal consistency of this questionnaire by Cronbach's alpha which was acceptable [17]. The correlation coefficients of test-retest study for 94 nonhomogeneous psychiatric patients during one week had a range of 0.78-0.90 [18]. Internal consistency among outpatients' samples ranged from 0.79 for paranoid to 0.90 for depression. Also internal consistency for individuals with clinical symptoms was reported from 0.77 for psychoticism to 0.90 for depression [18]. It was revealed that there is a significant relationship between nine dimensions of SCL-90 and MMPI in Iran [18]. This questionnaire can be performed by a psychologist or clinical interviewer. It takes 15-20 minutes to be filled out, but careful people may fill it out in 30 minutes or more.

Beck Self-concept test (BSCT) was developed by Beck and Steer in 1978 based on cognitive theory. This scale which includes 25 questions, evaluates and measures five dimensions of individual features such as; mental abilities, job efficiency, physical attractiveness, social skills, strength and weakness. This questionnaire contains several question groups with 5 options from "absolute positive" to "absolute negative". The

options were scaled from five to one based on individuals' self-imagination, except question 3,10,11,19, and 25 that were scaled reversely. Therefore minimum and maximum scores were ranged from 25 to 125. Beck et al. reported the reliability as 0.88 and 0.65 by test-retest for one week and three months interval, respectively [19]. In addition, the reliability of this questionnaire was reported 0.80 for depressed men, 0.76 for depressed women, 0.75 for anxious men, and 0.78 for anxious women by using Cronbach's alpha. In Iran, Mohamadi has reported its reliability 0.65 and 0.68, respectively using split-half and Cronbach's alpha [20]. Also, Dibajnia has reported Cronbach's alpha as 0.79[21]. To analyze data, descriptive statistics such as: the mean and standard deviation of groups were calculated. Also to do inferential analysis, the multivariate analysis (MANOVA) method and χ^2 was applied.

Results

According to the study results, 82 percent of surgery applicants were females and 18 percent were males. Besides, the minimum and maximum age of participants was 18 and 65. Also, 6.1 percent of participants were under 20, 43.9 percent 20- 29, 37.8 percent 30-39, 11 percent 40- 50 and 1.2 percent were above 50 years old. The highest frequency (43.9%) was in the range of 20-29 years old. Furthermore, 59.1 percent of participants were married while 49.9 percent of them were single. Regarding the education variable, 1.2 percent was under diploma, 37.6 percent had diploma degree, 41.2 percent had associate degree, 9.4 percent had bachelor degree, 2.4 had master degree and 8.2 percent had doctoral degree. The income level of 63.2 percent was under three hundred dollars as well. Different types of demanded surgeries are shown in Table 1.

Table 1. Frequency and percent of types of demanded cosmetic surgery

Surgery Type	Frequency	Percent
Nose	50	55.5
Botox	30	33.3
Cheeks	4	4.4
Lips	3	3.3
Abdomen	2	2.2
Eye lids	1	1.1
Total	90	100

In Table 2, mental disorder prevalence in surgery applicants is presented. According to Table 2, 40 individ-

uals (44.43%) of surgery applicants were diagnosed with mental disorders.

Table 2. Prevalence of Mental Disorders in Cosmetic Surgery Applicants

Variable	Healthy		Impairment		Severe impairment	
	Percent	frequency	Percent	frequency	Percent	Frequency
Somatization	100	90	---	---	---	---
Obsessive compulsive disorders	93.33	84	4.44	4	2.22	2
Interpersonal sensitivity	97.77	88	1.11	1	1.11	1
Depression	92.22	83	6.66	6	1.11	1
Anxiety	95.55	86	4.44	4	---	---
Aggression	92.22	83	5.55	5	2.22	2
Phobia	100	90	---	---	---	---
Paranoia	85.55	77	12.22	11	2.22	2
Psychosis	98.88	89	1.11	1	---	---
Total	55.55	50	35.55	32	8.88	8

Levine's test showed that the variance of the dependent variables in groups has no significant difference, and the covariance matrix of two groups was equal. Therefore, the assumptions of Manova were confirmed. Manova test showed that the effect of Pillai's Trace had significant difference (Sig<0.05; F =53.3). In general, there were significant differences in the dependent var-

iables between two groups (applicant and non-applicant). In Table 3, the mean and standard deviation of variables and subscales in both groups (applicant and non-applicant) are provided.

According to the results of Manova test in Table 3, there was a significant difference between two groups

in obsessive-compulsive, interpersonal sensitivity, depression, physical attractiveness and social skills (Sig<0.05). However, there were no significant difference between two groups in somatization, anxiety, aggression, phobia, paranoia, and phsychosis (Sig<0.05). Also, the statistical power of 0.8 in all comparisons in-

dicated that the sample size was sufficient to compare the applicant and non-applicant groups.

In Table 4, the results reveal a significant relationship between the groups and mental state ($\chi^2=11.21$; Phi statistic= -0.241; $p<0.01$).

Table 3. Comparing the mean of variables between the applicant and non-applicant of surgery

Subscale	Non- applicants		Applicants of surgery		F	Sig.
	Mean	standard deviation	Mean	standard deviation		
Somatization	10.65	2.21	11.22	8.03	1.01	0.09
Obsessive compulsive	7.72	2.24	11.78	7.66	12.11	0.0001
Interpersonal sensitivity	7.07	3.42	9.55	6.13	9.33	0.008
Depression	8.87	5.32	13.24	10.32	12.12	0.0001
Anxiety	9	3.23	9.11	7.69	.09	0.12
Aggression	6.45	2.11	6.13	4.89	1.05	0.08
Phobia	3.33	1.34	3.56	3.95	1.01	0.09
Paranoia	5.62	2.76	8.32	4.77	1.05	0.08
Psychosis	4.21	6.78	5.67	5.89	0.09	0.12
GSI	0.63	0.58	0.93	0.61	0.04	0.38
Mental abilities	13.34	3.1	12.82	3.95	1.12	0.06
Job efficiency	13.21	2.12	13.1	2.77	1.05	0.08
Physical attractiveness	15.11	3.16	12.63	3.29	10.94	0.003
social skills	14.98	2.50	13.74	2.57	3.14	0.04
strength and weakness	15.68	2.16	15.77	2.10	1.05	0.08

Table 4. Frequency of the groups according to mental statement

Group	Mental state	
	Impairment	Healthy
Applicant	40	50
non-applicant	18	72

Discussion

This study was conducted to examine the mental health and self-imagination between applicants and non-applicants of cosmetic surgery. In this study, 82 percent of applicants were women which is consistent with other studies [22-24]. In the cognitive behavioral model of Kash and Labarg, self-esteem has a close relationship with the sense of physical appearance among women compared with man. Therefore, women have more willingness to do beauty surgery [25]. The income of 63.2 percent of applicants was under 300 hundred dollars, . This findings are consistent with the study of Uzun et al and Conrado et al but inconsistent with the study of Niknam et al [26-28]. Thus, seeking surgical operations due to the financial wealth, cannot be explained. Besides, it seems that internal variables can be proper and more logical causes. Results of this study showed that the subscales of depression, obsessive-compulsive, interpersonal sensitivity, physical attractiveness and social skills had

significant differences in two groups (Sig<0/05). This findings are consistent with the research of Mortazavi et al [23]. Mortazavi et al reported that more than half of rhinoplasty candidates had at least an abnormal psychological symptom and the statistics were significantly higher compared with the general population [23]. In addition, the findings showed that depression among cosmetic surgery applicants is higher than non-applicants. In this study, 11.1% of participants were diagnosed as severe depression, and 66.6 percent as disoreder [29-30]. So, depression scores was significantly different in non-applicant sample. This findings is consistent with the results of Moss and Harris, Sansone and Sansone, Richardson et al, and Rogers and Rogers [31-34]. It seems that due to depression, the applicants of cosmetic surgery had more negative attitudes toward themselves than normal people. Therefore, they felt to be devaluable and unworthy in physical and mental dimensions. These negative attitudes can predict their desire to seek beauty surgery. People with obsessive-compulsive disorder, had

strong superego and high perfectionism. It results in high attention to details and permanent inescapable preoccupation about their mental and physical defects which consequently leads them experience a variety of cosmetic surgeries. However, psychological depression was an outcome among patients with obsessive-compulsive disorder after cosmetic surgery [35]. Results indicated that the applicants of cosmetic surgery were more sensitive in interpersonal relationships and had less social skills. People who had a negative impression of their appearance, had humiliation feeling and were more likely to have less self-confidence in interpersonal relationships. Such individuals limit their social relationships and may get isolated. These individuals have some subjective experiences which are different from others, and do not belong to the group [36]. Therefore, they have a high sensitivity on others' judgments and assessments which makes them attempt to reduce the negative assessment of others, and probably cosmetic surgery is an instrument for them to achieve this goal. The current study reveals that there is a significant relationship between being applicant and having mental problem. In fact, the applicants of cosmetic surgery have a lower level of mental health compared with non-applicants. Morgan showed that the applicants of cosmetic surgery had lower level of mental health than non-applicants [37]. Considering the fact that the study sample was selected by available sampling method, it is suggested to use randomized methods in future studies to reduce the sampling bias.

Conclusion

Based on the results of this study, individuals who seek cosmetic surgery are more likely to suffer from psychological problems such as OCD, depression and body image dissatisfaction than non-applicant. It seems that cosmetic surgery on applicants who are experiencing mental health disorders can cause problems both for patients and surgeons. Thus, assessing mental health is crucial before and after cosmetic surgery. Therefore, clinical interviews and psychological counseling offered by psychiatric and psychological teams are recommended, especially before cosmetic surgery.

Ethical Considerations

Compliance with ethical guidelines

This research received ethical approval (IR.PNU.REC.1398.073) and registered on November 16, 2019.

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Authors' contributions

Study design: Afshin Salahian; Data collection and analysis: Afshin Salahian; Manuscript preparation: Afshin Salahian.

Conflict of interest

The authors declared no conflict of interest.

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