European Journal of Plastic Surgery (2020) 43:69–74
https://doi.org/10.1007/s00238-019-01551-9

ORIGINAL PAPER

Comparison of the self-esteem between the applicants and non-applicants of cosmetic surgery

Ali Soroush[1] · Bahare Andayeshgar[1] · Maryam Janatolmakan[1] · Alireza Khatony[2]

Received: 24 October 2018 / Accepted: 9 July 2019 / Published online: 22 July 2019

Abstract

Background In some studies, psychological factors such as low self-esteem have been reported to be effective in making decision to undergo cosmetic surgery. So, this study was aimed to investigate the relationship between self-esteem and decision to undergo cosmetic surgery.

Methods In this descriptive-analytical study, the participants were selected by convenience sampling. They included 100 cosmetic surgery applicants who referred to the specialized surgical centers in Kermanshah-Iran during 3 months. The control group also included 100 participants who were selected based on similar demographic features, including age, gender, marital status, occupation, and education from among non-applicants. The Coppersmith Self-Esteem Inventory (CSEI) was used to measure the self-esteem of the participants in both groups. The data were analyzed by using descriptive and inferential statistics.

Results There was no significant difference between the self-esteem scores in both cosmetic surgery applicants and non-applicants. In addition, the findings showed a significant relationship between self-esteem and marital status of cosmetic surgery applicants ($P = 0.02$), and there was a significant relationship between self-esteem and occupation in non-applicants ($P < 0.001$). There was no significant relationship between self-esteem and other demographic features.

Conclusions It seems that self-esteem has no significant effect on the decision to have cosmetic surgery. Further, there was a relationship between self-esteem and some variables such as marital status in cosmetic surgery applicants and occupation in cosmetic surgery non-applicants. Further studies are suggested to be done on a larger sample size.

Level of evidence: Level III, diagnostic study

Keywords Self-esteem · Surgery · Plastic · Comparison

Background

Cosmetic surgery is aimed to improve the appearance and appearance features, as having a beautiful appearance and fit body can create a sense of excellence in human [1, 2]. New information published by the American Society of Surgeons (ASPS) showed that the number of cosmetic surgeries has grown significantly. According to the annual statistics of plastic surgery, 15.9 million minimally invasive cosmetic procedures and cosmetic surgeries have been performed in the USA in 2015, showing a 2% increase compared to 2014 [3].

Cosmetic surgeries are also growing in the Iranian society so that the number of cosmetic surgeries is seven times higher in Iran than in Europe, and Iran is ranked first in terms of cosmetic surgeries in the world [4, 5]. Cosmetic surgery is mainly defined as a feminine phenomenon, and social and cultural factors have contributed to the increased tendency towards cosmetic surgery, because people are increasingly exposed to various types of beauty standards through social networks [6]. Making decision to undergo cosmetic surgery is significantly influenced by psychological issues [7]. Therefore, when examining the motivation for cosmetic surgery, the impact of variables related to the decision on cosmetic surgery should be considered, because optimal mental health is essential for success in cosmetic operations, among which, self-esteem is the most important psychological variable [8, 9].

✉ Alireza Khatony
akhatony@gmail.com

[1] Clinical Research Development Center of Imam Reza Hospital, Kermanshah University of Medical Sciences, Kermanshah, Iran

[2] Health Institue, Social Development and Health Promotion Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran

Self-esteem is defined as the positive or negative evaluation of oneself, and to what extent an individual considers himself/herself as valuable and esteemed. Obviously, a cosmetic surgery with successful outcome will lead to the improvement of main psychological variables such as self-esteem, body image, and mental health [10]. Satisfaction with physical appearance, especially among women, is highly correlated with self-esteem. Hence, it is expected that cosmetic surgery not only enhances the body image but also increases the self-esteem generally [11]. In this regard, the results of some studies have indicated that disorder in self-esteem is a negative factor among young women in making decision to undergo cosmetic surgery [8]. The results of some other studies have indicated that self-esteem is significantly improved after cosmetic surgery [9, 12]. Another research has shown that self-esteem can indirectly affect cosmetic surgery [13]. In some studies, psychological factors such as low self-esteem have been reported to be effective in making decision to undergo nasal cosmetic surgery [14]. But, other studies suggest that doing cosmetic surgery does not affect the individuals' self-esteem [11, 15, 16].

Given the varying results of previous studies and the importance of this subject, conducting psychological studies in this field can be highly important and helpful. Moreover, if there is a significant difference between cosmetic surgery applicants and non-applicants in terms of self-esteem level, it is possible to provide the volunteers with necessary psychotherapy in order to prevent unnecessary cosmetic surgeries. According to the aforementioned statements and considering the lack of knowledge about the relationship between self-esteem and the intention to undergo cosmetic surgery among cosmetic surgery applicants, the present study was designed and conducted to shed more light on this issue. The purpose of this study was to determine the relationship between self-esteem and the intention to do cosmetic surgery among cosmetic surgery applicants compared to non-applicants.

Methods

Design

The present descriptive-analytical, cross-sectional study was conducted in Kermanshah—a western province of Iran—in summer 2017.

Samples

The sample size was calculated based on the mean values and standard deviation of self-esteem in two groups of cosmetic surgery applicants (before surgery) and non-applicants (22.62 ± 1.80 and 27.39 ± 2.11, respectively), as reported by Yin et al. [9]. Using the sample size formula for comparing the means of two independent samples, with 95% confidence level and 90% power, four samples were allocated in each group. In this study, a total of 100 participants were included in each group in order to increase the accuracy of the results. The samples were selected by convenience sampling method. For this purpose, the researcher referred to the cosmetic surgery centers of Kermanshah—west of Iran—and selected the eligible patients. The inclusion criteria of the study in both groups of cosmetic surgery applicants and non-applicants consisted of informed consent to participate in the study, being aged 17–60 years old and having no physical injury, congenital anomalies, genetic disorders, and deformity.

Instrument

The data collection tool was a two-part questionnaire. The first section focused on the demographic information, including gender, age, marital status, occupation, and education. The second part consisted of Coppersmith Self-Esteem Inventory (CSEI) developed by Estel Cooper Smith in 1981. The validity and reliability of the Coppersmith Self-Esteem Inventory (CSEI) in the study of Sabet and Houman were evaluated in Iran, and the validity coefficient of 0.89 was obtained. The reliability of the questionnaire was also evaluated through the test re-test method, and after 5 weeks and 3 years, the reliability coefficients of 0.88 and 0.70 were obtained, respectively [17].

This questionnaire has 58 items and five subscales, including social self-esteem, individual self-esteem, educational self-esteem, family self-esteem, and scale of lies. Each item is answered as "similar" or "dissimilar," and also each item is scored 0 or 1. The score range of the questionnaire is between 0 and 50, with higher scores indicating higher self-esteem. The lie subscale consists of items 6, 13, 20, 27, 34, 41, 48, and 55, which are neutral and only represent the honesty of respondents in answering the questions. If a person receives a score of higher than four in this subscale, the test reliability will be low, indicating that the respondent has been defensive while completing the questionnaire. This means that the individual's self-esteem score will not be real, and therefore, his/her data should not be included in the analysis [18]. The mean total score of self-esteem was used in this study to compare the two groups.

Data collection

In order to collect the data, the researcher first obtained the required permission from the University Research Ethics Committee and then attended the cosmetic surgery centers in Kermanshah. The researcher visited the centers during the week and enrolled the eligible patients. The questionnaires were then distributed among the participants and were collected by the researcher after completion. The study process is shown in Fig. 1.

Data analysis

Data were analyzed by 18th version of the Statistical Package for Social Sciences (SPSS v.18.0; SPSS Inc., Chicago, IL, USA). Chi-square test was used to examine the homogeneity

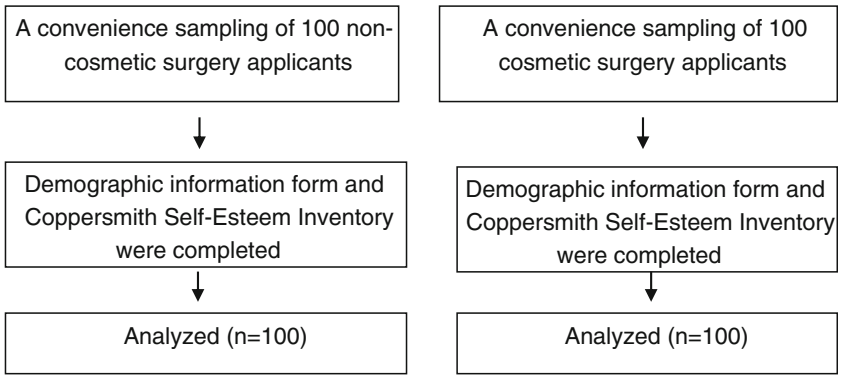

Fig. 1 Diagram of study process

of the two groups in terms of nominal variables (such as gender, marital status, and occupation). Also, Mann-Whitney *U* test was used to evaluate the ordinal variable (education), and independent *t* test was used to evaluate the quantitative variable (age). Kolmogorov-Smirnov test was used to examine the normality of self-esteem in both groups. Independent *t* test was used to compare the mean scores of self-esteem between the two groups and to examine the relationship between self-esteem, and gender or marital status. One-way ANOVA was used to study the relationship between self-esteem, and education, occupation, and age groups. *P* values of less than 0.05 were considered as significant level.

Ethic

An approval was obtained from the Ethics Review Committee of Kermanshah University of Medical Sciences with the code: "kmus.rec.2016.625." The study objectives were explained to the participants, confidentiality of personal data, and their answers to the questions was assured and written informed consent was obtained from all participations.

Availability of data and material Data are available by contacting to the corresponding author.

Results

The findings of this study showed that in the cosmetic surgery applicants and non-applicants, most participants were female (with frequencies of 91% and 90%, respectively), single (66% and 61%, respectively), and employed (38% and 38%, respectively); and had bachelor degree (48% and 49%, respectively). The mean ages of cosmetic surgery applicants and non-applicants were 29.73 ± 9.25 and 28.72 ± 8.30, respectively (Table 1). From the research samples, 93 patients had identified their type of cosmetic surgery, of which 62 (66.7%) had undergone rhinoplasty, 10 (10.8%) had Botox injections, and 21 (22.5%) had undergone other types of cosmetic surgery.

In our study, the results of Kolmogorov-Smirnov test showed that self-esteem had a normal distribution, and Levene's test indicated homogeneity of both groups in terms of self-esteem. The mean and standard deviation of self-esteem in cosmetic surgery applicants and non-applicants were 35.53 ± 7.39 and 35.41 ± 8.92, respectively, which did not show significant statistical differences (Table 2). In cosmetic surgery applicants, the highest and lowest means of self-esteem were found for the age range of 28–37 years with a mean of 36.15 ± 6.98, and the age range of 48–57 years with a mean of 30.30 ± 1.29, respectively. The results of ANOVA did not show any significant differences among the different age groups in terms of the mean score of self-esteem, which indicated no significant relationship between age and self-esteem in this group. In non-applicant group, the highest and lowest means of self-esteem were reported for the age groups of 28–37 (36.88 ± 9.34) and 38–47 (31 ± 6.36) years, respectively. The results of ANOVA revealed no significant difference among the different age groups regarding the mean score of self-esteem (Fig. 2).

The mean scores of self-esteem in male and female cosmetic surgery applicants were 38 ± 6.54 and 35.43 ± 7.49, respectively. The results of independent *t* test did not show any statistically significant difference between men and women in this group. In non-applicant group, the mean scores of self-esteem in men and women were 40.10 ± 6.80 and 34.88 ± 9.01, respectively. There was also no significant difference between the men and women in this group based on the results of independent *t* test.

In cosmetic surgery applicants, the mean score of self-esteem was lower among the married participants (33.14 ± 8.42) than the single participants (36.72 ± 6.58), indicating a statistically significant difference ($P = 0.02$). In the non-applicants, the mean score of self-esteem was lower among the single participants (34.76 ± 9.15) than the married ones (35.65 ± 8.80).

In cosmetic surgery applicants, the highest and lowest mean scores of self-esteem were related to the housewives and self-employed participants (38.14 ± 7.69 vs. 32.23 ± 8.90). The results of ANOVA did not show a significant difference in the mean score of self-esteem among different occupations. In the non-applicants, the self-employed participants and housewives had the highest and lowest levels of self-esteem, respectively

Table 1 Comparison of demographic characteristics of cosmetic surgery applicants and non-applicants

Demographic characteristics		Applicants No. (%)	Non-applicants No. (%)	Test result
Sex	Female	91 (91)	90 (90)	NS
	Male	9 (9)	10 (10)	
Marital status	Single	65 (66)	60 (61)	NS
	Married	34 (34)	39 (39)	
Job	Self-employed	14 (14)	15 (15)	NS
	Employee	37 (38)	38 (38)	
	Housewife	18 (19)	20 (21)	
	University Student	23 (24)	25 (25)	
	School Student	5 (5)	1 (1)	
Education	Under diploma	6 (6)	2 (2)	NS
	Diploma	32 (32)	32 (32)	
	Bachelor	48 (48)	49 (49)	
	Master	14 (14)	17 (17)	
Age (years)	17–27	38 (38)	40 (40)	NS
	28–37	46 (46)	51 (51)	
	38–47	12 (12)	5 (5)	
	48–57	4 (4)	4 (4)	

NS non-significant

(40.86 ± 4.71 vs. 29.65 ± 8.94). Based on ANOVA, the mean score of self-esteem was significantly different among different occupations ($P < 0.001$), which indicated a significant relationship between occupation and self-esteem in the non-applicant group.

In cosmetic surgery applicants, the participants with bachelor degree and those with education under diploma had the highest and lowest means of self-esteem (36.97 ± 6.15 vs. 29.50 ± 14.63), respectively, indicating no significant difference between them. In the non-applicants, the results were similar to that of cosmetic surgery applicants, and the highest and lowest levels of self-esteem were found for participants with master's degree or diploma (39.29 ± 8.79 vs. 34.28 ± 9.58), respectively. The results of ANOVA did not indicate a significant difference between self-esteem and education (Table 3).

Table 2 Comparison of self-esteem between two groups of cosmetic surgery applicants and non-applicants

	Applicants Mean ± SD	Non-applicants Mean ± SD	*t*(198)	*P* value
Self-esteem	35.53 ± 7.39	35.41 ± 8.92	0.10	0.91

Discussion

The present study aimed to compare the self-esteem between cosmetic surgery applicants and non-applicants and to examine its relationship with their individual characteristics. The results showed that the score of self-esteem in both cosmetic surgery applicants and non-applicants was equal and at an average level. In this regard, the results of Mojallal et al. study showed no significant difference between cosmetic surgery applicants and non-applicants in terms of self-esteem [19]. Furthermore, Yin et al. reported that disorder in self-esteem was a negative mediator in making decision to undergo cosmetic surgery among young women who may even need medical intervention. The self-esteem score was 22.60 ± 1.80 before cosmetic surgery and 25.88 ± 3.64 following the surgery (out of 40 points), which showed a significant increase in self-esteem [9]. On the other hand, Von Soest et al.'s study reported the mean score of 3.09 ± 0.49 (out of 4) for self-esteem before cosmetic surgery and 3.16 ± 0.47 6 months after the cosmetic surgery. Although this change was negligible, it was statistically significant [11]. In another study, Von Soest et al. reported the mean score of self-esteem to be 3.12 ± 0.49 (out of 4) before cosmetic surgery and 3.20 ± 0.40 5 years after the cosmetic surgery. They also found a mild but significant change in self-esteem [12]. Also, Ferraro et al. in a study compared the self-esteem of cosmetic surgery applicants and non-applicants and found no significant

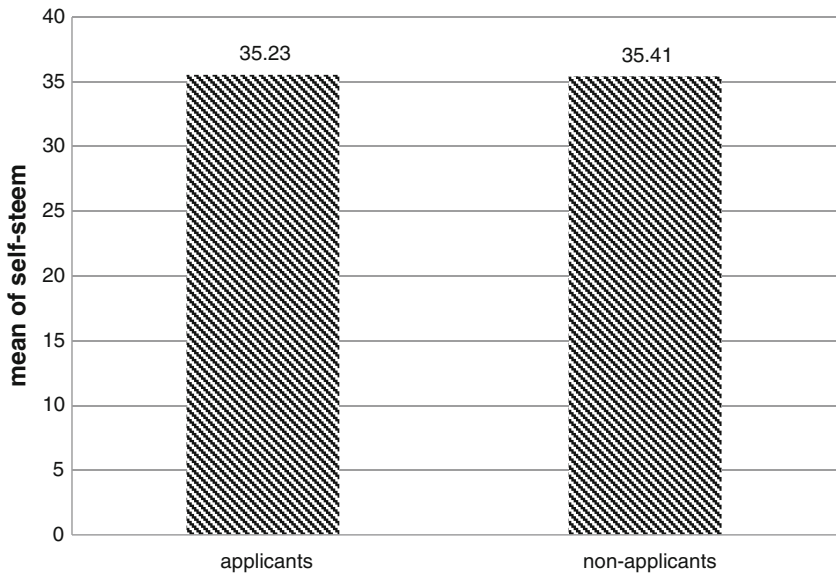

Fig. 2 Mean of self-esteem in cosmetic surgery applicants and non-applicants

Table 3 Relationship between self-esteem and individual characteristics in the group of cosmetic surgery applicants and non-applicants ($df = 4$)

		Self-esteem			
		Applicant		Non-applicants	
Variables		Mean (SD)	Test result	Mean (SD)	Test result
Sex	Female	35.43 (7.49)	$t(96) = -0.93$	34.88 (9.01)	$t(96) = -1.77$
	Male	38 (6.54)	NS*	40.10 (6.80)	NS
Marital status	Single	36.72 (6.58)	$t(97) = 2.33$	35.65 (8.80)	$t(97) = 0.47$
	Married	33.14 (8.42)	$P = 0.02$	34.76 (9.15)	NS
Job	Business	38.14 (7.69)	$F = 1.39$	40.86 (4.71)	$F = 6.58$
	Employee	35.94 (6.10)	NS	38.10 (8.34)	$P = 0.001$
	Housewife	32.33 (8.90)	$df = 4$	29.65 (8.94)	$df = 4$
	University student	36.13 (7.77)		32.16 (8.52)	
	School student	34.20 (6.90)		34 (4.6)	
Education	Under the diploma	29.50 (14.63)	$F = 1.33$	35 (7.07)	$F = 1.33$
	Diploma	34.56 (7.41)	NS	34.28 (9.58)	NS
	BSc.	36.97 (6.15)	$df = 3$	34.81 (8.46)	$df = 3$
	MSc.	35.35 (6.23)		39.29 (8.79)	
Age (years)	17–27	35.92 (6.66)	$F = 1.03$	34.35 (8.48)	$F = 1.18$
	28–37	36.15 (6.98)	NS	36.88 (9.34)	NS
	38–47	33.58 (11.26)	$df = 3$	31 (6.36)	$df = 3$
	48–57	30.50 (1.29)		32.75 (9.49)	

difference between them [4]. The findings of Jacono et al. showed that cosmetic surgery may increase the self-esteem in these patients [8]. Although in our study, the level of self-esteem in cosmetic surgery applicants was moderate and did not differ from the non-applicants, it can be considered one of the main reasons for undergoing cosmetic surgery.

In the present study, there was no significant difference in self-esteem among different age groups. In both cosmetic surgery applicants and non-applicants, the highest self-esteem was found for the age group of 28–37 years old, and most of the cosmetic surgery applicants were in this age range. Our results are in line with the study of Von Soest et al. [11]. Although we did not find any significant relationship between age and self-esteem, it seems that age can be an important and effective factor involved in undergoing cosmetic surgery.

In our study, in both cosmetic surgery applicants and non-applicants, no significant difference was found in self-esteem between the men and women. Our results are in line with Von Soest et al. [11]. But, unlike our study, Swami et al. found a significant relationship between gender and desire to perform cosmetic surgery [20]. Evidence suggests that cosmetic surgeries are the most common type of surgery in Iran [13], and women are more likely to have these surgeries [21]. In this regard, the results of Kamburoğlu and Özgür's study indicated that the degree of dissatisfaction with appearance in women is higher than men [22]. Evidence also suggests a significant correlation between satisfaction with self-image and self-esteem, especially in women [11]. Some studies suggest that low self-esteem is one of the main causes of desire for esthetic surgery [13] and a greater tendency for women to perform cosmetic surgeries can be considered a way of obtaining self-confidence [21].

In this study in both cosmetic surgery applicants and non-applicants, the self-esteem of married individuals was lower than that of single individuals, but this difference was significant only for cosmetic surgery applicants. The impact of marital status on self-esteem can vary according to the individuals' experience of marriage, which is why different studies are expected to yield different findings in this regard. In the present study, the mean score of self-esteem was average in terms of occupation, and in cosmetic surgery applicants and non-applicants, the self-employed participants had the highest and housewives had the lowest self-esteem. This difference was not statistically significant in cosmetic surgery applicants, but it was significant in non-applicants. Since occupation determines the economic status of people and is an intermediary for participation in the society, it can be an effective factor in promoting self-esteem, in particular among the self-employed people who interact with different people. In contrast, the housewives who were spending most of their time at home and away from social interaction had higher self-esteem.

In this study in cosmetic surgery applicants, the highest and lowest levels of self-esteem were reported for participants with bachelor degree and those with education level of lower than high school diploma, and the mean score of self-esteem was at an average level in this group. In the same group, there was no significant difference between the self-esteem and education. In non-applicants, the highest and lowest levels of self-esteem were found for those with master's degree and diploma, and it was at average level. In this group, there was no significant difference between the self-esteem and education.

A limitation of this study was sampling method, which was done through convenience sampling method. In this study, data were collected using self-report questionnaires which may have affected the accuracy of the results. Another limitation of the study was its cross-sectional nature, which may have limited the possibility of determining the causal relationship between the study variables. Finally, the last but not least important limitation was that, in our study, most of the participants were

women and individuals aged between 17 and 37 years, which could have affected the outcome of the study.

Conclusions

The results of this study showed that the score of self-esteem in cosmetic surgery applicants and non-applicants was at an average level and did not indicate any significant difference between them. There was a significant relationship between self-esteem and marital status in cosmetic surgery applicants and between self-esteem and occupation in cosmetic surgery non-applicants. Considering the growing trend of cosmetic surgery in Iran and the world, further studies with a wider geographical scope are suggested on this subject. Moreover, in addition to examining self-esteem, other psychological factors that may influence the decision to do cosmetic surgery are recommended to be examined. Also, considering the high number of women who apply for cosmetic surgery in Iran, comprehensive research on the psychological aspects of cosmetic surgery among them can have valuable results.

Acknowledgement This article was drawn from a research project sponsored by deputy of research and technology of KUMS. We would like to express our sincere gratitude to all the patients who participated in this research. We highly appreciate the Clinical Research Development Center of Imam Reza Hospital for their wise advices.

Authors' contributions AS, AK, MJ, and BA contributed in designing the study. AS, AK, MJ, and BA collected the data, and analyzed by BA. The final report and article were written by AK, AS, and MJ, and they were read and approved by all the authors.

Funding This study was funded by Kermanshah University of Medical Sciences (grant no. 95187).

Compliance with ethical standards

Conflict of interest Alireza Khatony, Ali Soroush, Bahare Andayeshgar, and Maryam Janatolmakan declare that they have no conflict of interest.

Ethical approval An approval was obtained from the Ethics Review Committee of Kermanshah University of Medical Sciences with the code: "kmus.rec.2016.625."

Informed consent Written informed consent was obtained from all participations.

References

1. Stefanile C, Nerini A, Matera C (2014) The factor structure and psychometric properties of the Italian version of the Acceptance of Cosmetic Surgery Scale. Body Image 11(4):370–379
2. Abbasi Sarcheshmeh MR, Mohammadpanah Ardakan A, Abbasi Sarcheshmeh A (2016) Comparison of beliefs about appearance, irrational beliefs and body mass index in those demanding cosmetic surgery with those who need it. J Dermatol Cosmet 7(3):156–162
3. American Society of Surgeons. New Statistics Reflect the Changing Face of Plastic Surgery [cited 2018 30 March 2018]. Available from: URL:https://www.plasticsurgery.org/news/press-releases/new-statistics-reflect-the-changing-face-of-plastic-surgery
4. Ferraro G, Rossano F, D'Andrea F (2005) Self-perception and self-esteem of patients seeking cosmetic surgery. Aesthet Plast Surg 29(3):184–189
5. Kinsaul JA, Curtin L, Bazzini D, Martz D (2014) Empowerment, feminism, and self-efficacy: relationships to body image and disordered eating. Body Image. 11(1):63–67
6. Nerini A, Matera C, Stefanile C (2014) Psychosocial predictors in consideration of cosmetic surgery among women. Aesthet Plast Surg 38(2):461–466
7. Ericksen WL, Billick SB (2012) Psychiatric issues in cosmetic plastic surgery. Psychiatry Q 83(3):343–352
8. Jacono A, Chastant RP, Dibelius G (2016) Association of patient self-esteem with perceived outcome after face-lift surgery. JAMA Facial Plast Surg 18(1):42–46
9. Yin Z, Wang D, Ma Y, Hao S, Ren H, Zhang T, Chen W, Fan J (2016) Self-esteem, self-efficacy, and appearance assessment of young female patients undergoing facial cosmetic surgery: a comparative study of the Chinese population. JAMA Facial Plast Surg 18(1):20–26
10. Vogel EA, Rose JP, Roberts LR, Eckles K (2014) Social comparison, social media, and self-esteem. Psychol Pop Media Cult 3(4):206–222
11. Von Soest T, Kvalem IL, Roald HE, Skolleborg K (2009) The effects of cosmetic surgery on body image, self-esteem, and psychological problems. J Plast Reconstr Aesthet Surg 62(10):1238–1244
12. Von Soest T, Kvalem IL, Skolleborg KC, Roald HE (2011) Psychosocial changes after cosmetic surgery: a 5-year follow-up study. Plast Reconstr Surg 128(3):765–772
13. Farshidfar Z, Dastjerdi R, Shahabizadeh F (2013) (2013). Acceptance of cosmetic surgery: body image, self esteem and conformity. Procedia Soc Behav Sci 84:238–242
14. Ghanbari Nezhad M, M Z (2015) The relationship between self-esteem and ineffective attitudes with concerned body image in rhinoplasty applicants. First International Conference on Psychology and Educational Sciences; Shiraz: Iranian Conferences
15. Bolton MA, Pruzinsky T, Cash TF, Persing JA (2003) Measuring outcomes in plastic surgery: body image and quality of life in abdominoplasty patients. Plast Reconstr Surg 112(2):619–625 discussion 26–7
16. Sadr Sadatzadeh M, Farahani M, Kayemanesh A, W R (2013) The state of self-esteem and body image of girls before and after nasal aesthetic surgery. Res Psychol Health 7(1):40–48 (in Persian)
17. Asgari F, Mirzaee M, Tabari R, Kazemnejad Leili E (2016) Self-esteem in students of Guilan University of Medical Sciences. Res Med Educ 8(2):18–26
18. Peyrovi H, Ghezelbash S, Ghorbani A, Inanloo M, Alizadeh H, Haghani H (2012) Relationship between self esteem and demographic variables among undergraduate student nurses. J Health Care 14:4 (in Persian)
19. Mojallal M, Khosrojavid M, Pakzad F, Ghanbari M (2014) Early maladaptive schemas, body image, and self-esteem in Iranian patients undergone cosmetic surgery compared with normal individuals. Pract Clin Psychol 2(3):201–210 (in Persian)
20. Swami V, Chamorro-Premuzic T, Bridges S, Furnham A (2009) Acceptance of cosmetic surgery: personality and individual difference predictors. Body Image 6(1):7–13
21. Kalantar-Hormozi A, Jamali R, Atari M (2016) Interest in cosmetic surgery among Iranian women: the role of self-esteem, narcissism, and self-perceived attractiveness. Eur J Plast Surg 39(5):359–364
22. Kamburoğlu HO, Özgür F (2007) Postoperative satisfaction and the patient's body image, life satisfaction, and self-esteem: a retrospective study comparing adolescent girls and boys after cosmetic surgery. Aesthet Plast Surg 31(6):739–745