

## A Comparative Analysis of Body Image, Life Satisfaction and Self-Esteem of Patients Before and After Rhinoplasty

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### ABSTRACT

**Objective:** To answer whether life satisfaction, self-esteem and body image rate differ significantly in patients before and after aesthetic rhinoplasty.

**Study Design:** Quasi-experimental study.

**Place and Duration of Study:** Combined Military Hospital, Sialkot and Combined Military Hospital, Rawalpindi Pakistan, from Aug 2019 to Aug 2021.

**Methodology:** The study was conducted on 60 male and female participants between the age of 20-50 years. The demographic questionnaire, questionnaires of life satisfaction, body image and Rosenberg self-esteem scale were used to investigate the significant difference between males and females for life satisfaction, body image, and self-esteem before and after rhinoplasty. Patients filled out the questionnaires before surgery and six months after surgery.

**Result:** The results of the study showed a significant difference in the mean scores before and after rhinoplasty. For life satisfaction the scores were,  $23.550 \pm 1.032$ ,  $28.80 \pm 13.31$ , for body image,  $8.91 \pm 3.34$ ,  $28.51 \pm 4.27$  and self-esteem  $4.68 \pm 4.74$ ,  $30.56 \pm 5.27$  in both genders. Results revealed that 49 (56.80%) females, with the highest number (31, 51.7%) of undergraduate participants and the majority of them (40, 66.7%), were from the middle class.

**Conclusion:** The results of our study confirmed a significant change in the participants' experience of their life satisfaction, body image and self-esteem after rhinoplasty.

**Keyword:** Body image, Life satisfaction, Rhinoplasty, Self-esteem.

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### INTRODUCTION

Rhinoplasty is a surgically performed procedure to improve the appearance of the nose and face of those who have a structural aesthetic deformity of the nose. In the last 20 years, the trend in rhinoplasty has changed from resection and division of the osseous and cartilaginous structures of the dorsum of the nose to a more conservative approach to preserving the structures.<sup>1</sup> The use of specific techniques of suturing the cartilage and augmenting the contours to correct the structural anomalies of the nose has been in practice.<sup>2</sup>

Studies have shown that rhinoplasty is among the most commonly performed surgical procedures in plastic surgery and ENT. Only the number of rhinoplasties in the USA in 2009 remains at 255000.<sup>1</sup> In our part of the world, there has been a significant increase in the demand for aesthetic rhinoplasty during the last two decades. The main reasons for this increasing demand are increased self-attention, media awareness,

and advancement in surgical manoeuvres. This changing trend has been seen mostly in the young age group among both men and women.<sup>2</sup>

Rhinoplasty has been shown to affect individual psychological and mental health significantly. Research carried out by Ghahremani *et al.* indicated that the mental health of the patient after rhinoplasty showed significant improvement in all dimensions.<sup>3</sup> It was observed that although the purpose of rhinoplasty varies from person to person, the major reason for rhinoplasty is an alteration in appearance. Research studies have shown that the single most motivating factor to perform rhinoplastic surgery is the wish of the patient to change their facial appearance or see a more attractive appearance.<sup>4</sup>

Research work has also shown that personal satisfaction in life is improved significantly after surgery. A study by Herruer *et al.* showed that the lower self-consciousness of appearance was improved significantly after the rhinoplasty, which brought about a greater change in individual satisfaction in their life.<sup>5</sup> The rhinoplasty satisfaction outcome evaluation is complicated, especially when different consultants

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perform it. To overcome this difficulty, we use the Rhinoplasty outcome evaluation (ROE) questionnaire to assess our results.<sup>6</sup>

Rhinoplastic changes in the nose's shape significantly increase individuals' self-confidence, and some studies suggested that the quality of life also improves after rhinoplasty.<sup>7</sup> A significant correlation between body image and mental health before and after rhinoplasty was also reported.<sup>8</sup> Some researchers also showed significant improvement in body image and self-esteem after surgery.<sup>9,10</sup>

The present study will help determine male and female life satisfaction, body image, and self-esteem before and after rhinoplasty. In addition, this study assessed whether life satisfaction and self-esteem body image rate differ significantly between males and females before and after aesthetic rhinoplasty.

**METHODOLOGY**

This quasi-experimental (pre-post) study was conducted at two Combined Military Hospital, Sialkot and Combined Military Hospital, Rawalpindi Pakistan. After getting approval from the Ethical Review Committee of the hospital (ERC/02/2022), Patients were included by consecutive sampling technique. The sample size was calculated by an online sample size calculator by Raosoft and single blinding was used to reduce observational bias in research results. The parameters of sample size calculation include a 5% level of significance, power=80% and a mean difference of 10.<sup>11</sup>

**Inclusion criterion:** All the patients who desired to undergo rhinoplasty between the age of 20 to 50 years, irrespective of gender, social background and educational status, were included in the study.

**Exclusion criterion:** Patients who were unfit for general anaesthesia and cases of revision rhinoplasty were excluded from the study.

A detailed history and informed consent were obtained from 60 patients undergoing rhinoplasty. The questionnaires were administered twice for data collection. The first time the participants filled out the questionnaires about self-esteem, body image and life satisfaction before the surgery. Then, the data was collected from the same patients after six months of surgery. Two surgeons performed all surgeries using the same open rhinoplasty techniques. Follow-up was performed by a single candidate to minimize biases. Confounding variables were controlled by exclusion criteria.

A measure to life satisfaction scale, body image scale and general self-esteem scale were used to analyze all the participants. In addition, demographic information was obtained through the form comprising of items composed of age, education and socioeconomic status.

The revised life satisfaction scale consists of six items used to assess the participants' experience with satisfaction with life.<sup>12</sup> The body image scale consisting of 36 items, was used to assess the participants' beliefs about their body image.<sup>13</sup> The General Self-Esteem Scale, which consists of 10 items, was used to assess the self-esteem among participants.<sup>14</sup>

Data were analyzed using Statistical Package for the social sciences (SPSS) version 21.00. Mean±SD were calculated for continuous variables. Frequency and percentage were calculated for categorical variables. The chi-square test and t-test were used. The *p*-value ≤ 0.05 was considered significant.

**RESULTS**

Among the total number of 60 participants, 11(42%) were males, and 49(56.8%) were females. The age of participants ranged from 20 to 50 years (mean: 22.95±3.87 years).

Socioeconomic status analysis the socioeconomic class, educational status and gender distribution of the participants were shown in the Table-I. Mostly the individuals from the middle class 40(66.7%) and undergraduates 31(51.7%) took a keen interest in rhinoplasty.

**Table-I: Demographic Characteristics of Study Participants (n =60)**

Parameters		n(%)
Age	20-30 years	48 (80.0)
	30-40 years	3(5.0)
	40-50 years	9(15.0)
Education	Undergraduate	31(51.7)
	Graduate	29(48.3)
Socio-economic status	Lower class	9(15.0)
	Middle class	40(66.7)
	Upper class	29(48.3)
Gender	Male	11(42.0)
	Female	49(56.8)

Table-II showed that significant difference between experience before rhinoplasty and experience after rhinoplasty (*p*<0.05). The mean score for participants' experience with body image before rhinoplasty was 4.68±4.74, and the mean score for participants experience about body image after rhinoplasty

was  $30.56 \pm 5.27$ . The result showed that the participants' self-esteem experience dramatically increased 26 times after rhinoplasty.

**Table-II: Comparison of Participants Experiences about Life Satisfaction Body Image and Self-Esteem of Participants Before and After Rhinoplasty (n =60)**

Parameters	Experience Before Rhinoplasty (n=60) (mean±SD)	Experience After Rhinoplasty (n=60) (mean±SD)	p-value
Life satisfaction	23.55±1.032	28.80±13.31	0.0029
Body images	8.91±3.34	28.51±4.27	<0.001
Self-esteem	4.68±4.74	30.56±5.27	<0.001

**DISCUSSION**

In the current study, 60 male and female participants between the ages of 20-50 years were recruited to see the relationship between male and female, body image, life satisfaction, and self-confidence before and after rhinoplasty. Frequency analysis showed that 11% of the participants seeking rhinoplasty were male and 49% female. These findings are similar to the study of Zojaji *et al.* showing that 78% of the individuals that underwent rhinoplasty were women and 22% were men, the female participants being the majority of rhinoplasty participants.<sup>15</sup> Our results showed that that socioeconomic status is a big contributing factor to motivation toward rhinoplasty. In our study, patients belonging to the lower class (15%), middle class (66.7%) and upper class (48.3%) showed that the middle class are more motivated for rhinoplasty. The age of the participants also played an important role in their motivation toward rhinoplasty. This is explainable given that young people are motivated by profound changes in their appearance. These results align with previous research by Parsa *et al.* showing that most respondents, white females between the ages 25-33 with a bachelor or higher degree, underwent rhinoplasty surgery.<sup>16</sup>

Our study showed that the mean scores for participants' experience of their life satisfaction before rhinoplasty was  $23.55 \pm 1.03$ , and the mean score for participants who experienced their life satisfaction after rhinoplasty was  $28.80 \pm 13.31$ . Our result showed that rhinoplasty increases the life satisfaction of the patients five times, self-esteem 19 times and positive body image perceptions by eight times. Our results align with a study by Koybasi *et al.* showing that patient quality of life satisfaction was improved by the functional outcome of aesthetic rhinoplasty surgery.<sup>17</sup> They suggested that proper patient selection and

successful operation will improve patients' quality of life after rhinoplasty surgery.<sup>18</sup>

In our study the mean scores for participants' experiences of their body image before rhinoplasty was  $8.91 \pm 3.34$ , and the mean scores for participants' experiences of their body image after rhinoplasty was  $28.51 \pm 4.27$  which showed that the rhinoplasty increases participants experience about their body image 19 times. Results showed dramatic changes in participants' experiences with their body image. Participants were significantly more satisfied with their body image after rhinoplasty. The study results align with previous research showing that patients' body image improved after rhinoplasty.<sup>9,19</sup> In our study the mean scores for participants' self-esteem experiences before rhinoplasty was  $4.68 \pm 4.74$ , and the mean scores for participants' self-esteem experiences after rhinoplasty was  $30.56 \pm 5.27$ , this showed that the participants' experience about their self-esteem increase 26 times after rhinoplasty. Compared to our results of improvement in the self-esteem of patients, Niehaus *et al.* retrospectively investigated the changes in quality of life and self-confidence of the rhinoplasty patients and reported an average score (6.32) on a scale of 0 to 14 in the FPI-R questionnaire resulted in a common emotionality and self-assessment, while the RSES (33.64) on a scale 10 to 40 which indicated a high self-confidence and a statistically significant improvement ( $p=0.001$ ).<sup>20</sup>

Similarly, Chaudhry *et al.* also reported significant improvement in the self-esteem of patients who underwent functional rhinoplasty. However, dramatic improvement in self-esteem and body image makes individual life better and more charming.<sup>21</sup>

**LIMITATIONS OF STUDY**

First, the sample size was smaller, and the results may be different if a large sample is studied. Second, we studied individuals from the same ethnicity and studies from different ethnic backgrounds may highlight different angles of rhinoplasty. Therefore, we recommend that in the future aesthetic rhinoplasty may be studied separately from functional rhinoplasty.

**CONCLUSION**

For the ongoing discussion, it was established that dramatic improvement has occurred in the participants' experience regarding their life satisfaction, body image and self-esteem. In addition, the results of the study confirm that younger people from the low and middle class, especially women, were more likely to change their appearance.

**Conflict of Interest:** None.

**Author's Contribution**

Following authors have made substantial contributions to the manuscript as under:

SU: Drafting the manuscript, data interpretation, critical review, approval of the final version to be published.

AH & NR: Conception, data acquisition, drafting the manuscript, approval of the final version to be published.

SUW & ZS: Study design, data analysis, critical review, drafting the manuscript, critical review, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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