

## Septorhinoplasty Outcome in Male and Female

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### Abstract

**Objective:** Evaluating the results of septorhinoplasty, one of the most commonly performed aesthetic surgeries, is necessary. This study aimed to compare the outcomes in men and women.

**Methods:** In this cross-sectional study, 40 patients (20 male and 20 female) were assessed before and after septorhinoplasty using the Rhinoplasty Outcome Evaluation questionnaire.

**Results:** The ROE score before surgery was  $15.1 \pm 2.29$  in the female group, which turned into  $17.85 \pm 2.39$  in the 3-months follow-up visit ( $p < 0.001$ ). The male group's mean ROE score before surgery was  $12.95 \pm 3.05$  and  $17.0 \pm 2.07$  after surgery ( $p < 0.001$ ). However, the ROE score changes were insignificant between the two groups ( $p = 0.015$ ).

**Conclusion:** Although the mean ROE score was lower in the male group before surgery, both groups reported significant improvement after septorhinoplasty. It seems that gender differences do not have a prominent role in outcomes.

**Keywords:** rhinoplasty; outcom; aesthetics; satisfaction; cosmetic

### Introduction

Septorhinoplasty is the most common aesthetic surgical procedure performed worldwide and is the most challenging. The surgeon is supposed to be accomplished to evaluate and enhance outcomes. [1,2] The face has a distinguishing role in personal identity, and the nose in the central part is the most prominent structure.[3] The main goal in septorhinoplasty is to reconstruct the nose from cosmetic and functional perspectives. Assessment of surgical outcomes and comparing results of different techniques enables the surgeon to select the most proper procedure.

There are some subjective and objective tools to evaluate results, e.g., patient-reported questionnaires, each focusing on specific viewpoints. [4,5]

In recent decades, in Asian countries, the preponderance of septorhinoplasty has been significant, especially the number of surgeries performed in Iran is remarkable.[6] Surprisingly, the tendency in the male population is also rising significantly, especially in Northern Iran. We

decided to evaluate the outcome differences in male and female candidates using a rhinoplasty outcome evaluation (ROE) questionnaire.

### Material and Methods:

In this prospective study, 40 patients (18 to 50 years old) with nasal deformity candidates for septorhinoplasty, operated in a governmental university hospital in Rasht, Iran, during a season period in 2022 were included.

Patients, divided into male and female groups, were matched for age. Those with a history of drug and substance abuse, addiction to alcohol, known cases of cognitive or psychological diseases, and a history of anti-depressant/ anxiolytic usage were ruled out.

During the pre-operation visit, detailed history was taken, and a physical examination was performed. After taking informed consent to join the study, a checklist of personal data and outcome assessment was recorded based on the ROE questionnaire by a third person for more convenience.

All patients were operated on via open septorhinoplasty. The post-operative evaluation was done after 3 months. Additionally, patient satisfaction was recorded in each group before and after surgery as poor(low), good(moderate), and excellent(high).

ROE is a reliable and valid questionnaire that evaluates patient satisfaction from functional and aesthetic perspectives. (14) It consists of six easy questions about breathing and appearance and may also rate social, psychological, and emotional parameters. Each question consists of 5 options, scored 0-4. The result may be reported as a percentage. Before starting the study, we assessed the validity and reliability of the acceptable Persian form of the test.

The results were compared using paired t-test. P-value <0.05 was considered significant.

## Results:

In this cross-sectional study, 20 female and 20 male patients were assessed and compared from March to July 2022 in a university hospital in Rasht, northern Iran.

The difference between mean age, level of education, marriage, and regular exercise were not statistically significant among the two groups, while tobacco smoking was more prevalent in men( $p=0.003$ ). Most the patients (97.5%) thought surgical costs in this particular hospital were proper and even low. Pre-operation measures and scheduling were easy and appropriate, according to 92.5% of patients.

In the male group mean ROE score (of 24) before surgery was  $12.95 \pm 3.05$  (53%) (minimum:5 to maximum:18), and  $17.0 \pm 2.07$  (70%) (minimum:13 to maximum:20) after surgery, and the difference was significant ( $p<0.001$ ). On the other hand, the ROE score before surgery was  $15.1 \pm 2.29$  (63%) (min:11-max:19) in the female group, and  $17.85 \pm 2.39$  (74.37%) (min:13- max:22) in 3-months follow-up visit, this change was also significant ( $p<0.001$ ). According to the study results, the difference between male and female groups' ROE scores before and 3 months after surgery were not significant ( $p$  values=0.15).

Before surgery, 40% of men had a low level of appearance satisfaction, and 60% were moderately satisfied. Meanwhile, satisfaction levels increased by 25% in men with both low and moderate satisfaction levels, after septorhinoplasty, as opposed to a 75% improvement in low-satisfied and 40% in moderately-satisfied women. Before surgery level of satisfaction in the female group was 20% poor, 75% good, and in 5% excellent before septorhinoplasty, which changed to 55% moderate and 45% high 3 months after surgery. Improvement in satisfaction level was significantly better after surgery in the female group. None of the patients reported worsening satisfaction levels post-operatively.

## Discussion:

Septorhinoplasty is one of the surgeries performed by oto-rhinolaryngologists and plastic surgeons frequently, but there is still no standard method of reporting outcomes. Some questionnaires are available to be reported by patients considering different perspectives of nasal function and appearance.[5] Psychosocial evaluation of patients preoperatively, counseling, and meticulous patient selection are important in achieving more realistic expectations and improved results. [3,7] Sara Sena Esteves and colleagues reported an outcome study on 107 rhinoplasty patients after 3 and 6 months of follow-up utilizing an ROE questionnaire. Although improvement in results was observed ( $p<0.01$ ), they noticed worse scores in anxious and insecure patients pre-operatively( $p<0.05$ ). [8] They also found that improvement is more significant in lower pre-operative scores, which is congruent with our findings in the female group. That may be partly due to low expectations of patients with more prominent cosmetic deformities, because patients with nasal obstruction related to a septal deviation that is reconstructed and corrected by septorhinoplasty gain poorer scores on the

questionnaires before surgery and experience much better functional results. Rhinoplasty candidates wish to reach optimal results of aesthetic measurements of facial parameters. Subjective and Objective quantification methods are used to assess different parameters related to surgical outcomes. [4,5,9,10] Some subjective questionnaires, e.g., ROE and Utrecht Questionnaire for Rhinoplasty, consist of questions influenced by cultural factors.10 The tendency to septorhinoplasty is strikingly rising among the male population, so we attempted to evaluate differences between the two sexes. In the present study, we recorded acceptable results after surgery in male and female groups based on ROE scores. Generally, patients who are willing to have cosmetic nose surgery gain at least minimum levels of improvement in functional and aesthetic results. Even in a study evaluating the outcome of septorhinoplasty performed by residents, data analysis favored better outcomes after the operation.[11] In this study, we couldn't find any significant relationship between age and outcome, as opposed to the research of Arima and coworkers that showed better results in younger patients (<30 years) ( $p=0.05$ ). However, the sample size was almost the same.[12] The selection of crooked nose deformity may be the factor that affected the reported data.

Chavan and colleagues reported average pre-operation satisfaction of 26.8% in females and 32.2% in males. These measures were 63% and 84.3%, respectively, after surgery. [7] In contrast to this data, we didn't notice the difference in pre-operation satisfaction level in the male group compared to the female. Additionally, there was a greater improvement in results after surgery in women (an average of 57.5%, in contrast to 25% in men). These differences reveal the variance of results in different societies strongly related to cultural and psychosocial factors in different countries, which should be regarded in pre-operation counseling.

## Conclusion:

Facial appearance satisfaction and expectations may be totally different between males and females. Although the mean ROE score was lower in the male group before surgery according to the study, both groups reported significant improvement after septorhinoplasty. Also, the changes in ROE score were not statistically different between groups, which emphasizes the importance of pre-operation counseling and proper surgical techniques rather than gender differences.

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