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Original Research Article

Patient expectation and satisfaction in septorhinoplasty: evaluation of the outcome pre- and post-operatively

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ABSTRACT

Background: Septorhinoplasty is a common procedure aimed at correcting nasal deformities that affect both functionality and aesthetics. Achieving high patient satisfaction is crucial, particularly when patient expectations are aligned with surgical outcomes.
Methods: This prospective study included 50 patients who underwent septorhinoplasty at Al Nahda Hospital from April 2016 to June 2018. The evaluation was performed using the rhinoplasty outcome evaluation (ROE) and nasal obstructive symptoms evaluation (NOSE) scales preoperatively and at 6 and 12 months postoperatively. Statistical analysis involved paired t-tests and chi-square tests.
Results: Significant improvements in nasal obstruction and overall patient satisfaction were observed. Preoperative NOSE scores indicated substantial nasal obstruction, which improved significantly postoperatively. Patient satisfaction, measured by the ROE scale, increased notably after surgery, with 88% of patients reporting high satisfaction.
Conclusions: Septorhinoplasty significantly enhances both functional and aesthetic outcomes, with high patient satisfaction achieved through effective preoperative assessment and realistic counseling.

Keywords: Rhinoplasty outcome evaluation, Nasal obstructive symptoms evaluation, Septorhinoplasty, Patient satisfaction

INTRODUCTION

Nasal deformities, characterized by deviations in the alignment of the nasal structure, often result from trauma or congenital abnormalities. These deformities can lead to functional impairments, such as nasal obstruction, and significant aesthetic concerns. In Oman, nasal deformities are trauma-related, with a substantial proportion of patients seeking rhinoplasty due to nasal trauma.[1,2] Cultural and demographic factors in the Omani population may also influence the prevalence and types of nasal deformities. The anatomical basis of nasal deformities involves the bony pyramid, the septum, or both. Trauma can cause deviations in the nasal bones and cartilages, while intrinsic forces may arise from misdirected growth within the nasal cartilage. These deformities often result in complex structural abnormalities that contribute to both functional and cosmetic issues.[3,4] Rhinoplasty/septorhinoplasty, is aimed at correcting these deformities. The primary goals are to alleviate nasal obstruction, enhance cosmetic appearance, and improve overall quality of life. However, patient satisfaction with septorhinoplasty outcomes is highly dependent on the alignment of surgical results with patient expectations.[5,6] The assessment of patient satisfaction has traditionally been challenging due to the subjective nature of aesthetic outcomes. Tools such as the ROE and NOSE scales provide standardized measures for

evaluating patient satisfaction and functional outcomes. This study assesses patient satisfaction following septorhinoplasty using standardized tools to evaluate both functional and aesthetic outcomes in Omani context.[7,8]

METHODS

This prospective study included fifty patients who underwent septorhinoplasty at Al Nahda Hospital between April 2016 and June 2018. The ethical approval was obtained from our hospital prior to the study and informed consent was taken from all the included patients. The Inclusion criteria were patients aged 18 years and older with external nasal deformities and nasal obstruction. Exclusion criteria included patients under 18 years of age, those with nasal masses or polyps, patients undergoing psychiatric treatment, and those with contraindications to surgery. Preoperative assessments included a detailed history, clinical examination, nasal endoscopy, and administration of the NOSE and ROE questionnaires. Preoperative photographic documentation was obtained from various angles, including frontal, basal, lateral, oblique, and helicopter views.

All surgeries were performed under general anesthesia using the open rhinoplasty technique by a single surgeon. The primary surgical goals were to correct nasal septal deformities, improve nasal function, and enhance cosmetic appearance. Routine follow-up was conducted at 2 and 6 weeks postoperatively, with further follow-up at 6 and 12 months to assess long-term outcomes. Postoperative assessments included the administration of the NOSE and ROE questionnaires at each follow-up visit. The NOSE scale evaluated improvements in nasal obstruction, while the ROE questionnaire assessed overall patient satisfaction with the aesthetic and functional outcomes of the surgery.[9,10]

RESULTS

The study included 50 patients, with a male predominance (68%, n=34) and 32% (n=16) female patients. The average age ranged between 17 and 24 years.

Preoperative NOSE scale assessment

Preoperative nasal obstruction was assessed using the NOSE scale. Table 1 shows the NOSE results in male vs female group.

Table 1: Preoperative NOSE scale assessment.

NOSE scale score	Male, (n=34)	Female, (n=16)
Mild obstruction	27 (79.4%)	9 (56%)
Moderate obstruction	5 (15%)	2 (12.5%)
Sever obstruction	2 (6%)	5 (31%)

Postoperative NOSE scale assessment

Postoperative assessments at 6 and 12 months revealed a significant improvement in nasal breathing across both groups, with 100% of the patients reporting improved NOSE scores, indicating a complete resolution of nasal obstruction symptoms.[11,12]

Preoperative ROE satisfaction assessment

Patient satisfaction was evaluated using the ROE questionnaire. Table 2 shows the male group vs female group ore-operative ROE score.

Table 2: Preoperative ROE satisfaction scores.

ROE satisfaction score	Male, (n=34)	Female, (n=16)
25% satisfaction	17 (50%)	10 (62.5%)
50% satisfaction	14 (41%)	4 (25%)
75% satisfaction	3 (9%)	2 (12.5%)

Postoperative ROE satisfaction assessment

Postoperative ROE assessments showed a marked improvement in patient satisfaction: Among male patients, 30 patients (88%) achieved a satisfaction score above 75%, 3 patients (9%) had a satisfaction score between 50-75%, and 1 patient (3%) reported a satisfaction score below 50%.

Among female patients, 14 patients (87.5%) achieved a satisfaction score above 75%, while 2 patients (12.5%) had a satisfaction score between 50-75%. No female patients reported a satisfaction score below 50%.

The one male patient who reported a postoperative satisfaction score below 50% was preoperatively informed of potential limitations due to thick skin and a shorter nasal pyramid, which were expected to impact the aesthetic outcome. Importantly, no patients experienced a worsening of satisfaction levels postoperatively.[13,14]

To further substantiate these findings, a paired t-test was conducted to compare preoperative and postoperative NOSE and ROE scores. The results were as follows:

NOSE scores: The mean preoperative NOSE score was significantly higher compared to the mean postoperative NOSE score ($p<0.001$), confirming improvement in nasal obstruction.

ROE scores: The mean ROE satisfaction score increased significantly from preoperative to postoperative assessments ($p<0.001$), indicating substantial improvement in patient satisfaction.

A chi-square test assessed the association between gender and postoperative satisfaction levels, revealing no significant difference in satisfaction improvements

between male and female patients (p>0.05). This suggests that both genders benefited equally from the surgery.[15,16]

DISCUSSION

Septorhinoplasty aims to address functional and aesthetic concerns, with patient satisfaction serving as a key success indicator. Our study's findings align with existing literature that emphasizes the importance of both objective and subjective measures in evaluating outcomes.[17,18]

Our cohort showed a male predominance, consistent with other studies reporting higher male participation in septorhinoplasty, often due to functional concerns like nasal obstruction. The age range of 17-24 years highlights a younger demographic, typically driven by aesthetic motivations. The NOSE scale results preoperatively showed that a considerable proportion of males (79.4%) and females (56%) experienced severe nasal obstruction, with females more likely to report severe obstruction (31% vs. 6% in males). This gender difference could be attributed to anatomical variations and differences in symptom perception, as reported in prior studies on nasal obstruction.[19,20]

Postoperatively, both groups demonstrated complete improvement in nasal breathing, supporting the efficacy of septorhinoplasty in resolving functional issues. This finding is consistent with other studies showing significant improvements in nasal airflow and patient-reported outcomes post-surgery.[21] Additionally, ROE questionnaire results revealed a stark contrast between preoperative and postoperative satisfaction levels. Preoperatively, a substantial number of both male (50%) and female (62.5%) patients reported low satisfaction levels, reflecting the impact of nasal obstruction and aesthetic concerns on their quality of life. The marked improvement in satisfaction postoperatively, with over 87% of both males and females reporting high satisfaction, underscores the effectiveness of septorhinoplasty in aligning surgical outcomes with patient expectations. The absence of significant gender differences in postoperative satisfaction levels suggests that the benefits of septorhinoplasty are applicable, regardless of gender. This aligns with previous research indicating that patient satisfaction is more influenced by the alignment of expectations with surgical outcomes rather than gender-specific factors.[21]

CONCLUSION

Septorhinoplasty significantly improves both functional and aesthetic outcomes for patients, as evidenced by the substantial enhancement in NOSE and ROE scores. The alignment of patient expectations with surgical results is crucial for achieving high satisfaction levels. This study highlights the importance of thorough preoperative assessment and patient counseling to ensure realistic expectations and optimal outcomes. Future research should explore long-term outcomes and the impact of various surgical techniques on patient satisfaction.

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