

Original Research Article

Assessment of surgical outcomes of septorhinoplasty patients: a clinical study

Reshma P. Chavan^{1*}, Shivraj M. Ingole², Santosh N. Birajdar¹

¹Department of ENT, Dr. V.M.G.M.C, Solapur, Maharashtra, India

²Department of Radiology, G.G.M.C, and Sir J.J Group of Hospitals, Mumbai, Maharashtra, India

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*Correspondence:

Dr. Reshma P. Chavan,

E-mail: entproblem@gmail.com

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ABSTRACT

Background: Septorhinoplasty is commonly done procedure in ENT basic setup. It is done to relieve nasal obstruction and also to give better cosmetic appearance. There is dictum in nasal anatomy, 'as goes septum, goes nasal tip. It is clearly known that septum deviations change the cosmetic appearance of persons. Present study had done to access pre and post-operative satisfaction of patients with use of rhinoplasty outcome questionnaire (ROE).

Methods: This is prospective study of 40 patients who have under gone septorhinoplasty procedure in medical college hospitals. Assessment done in regards to patients satisfaction before and after surgery. Rhinoplasty outcomes evaluation (ROE) questionnaire was applied to all the patients and evaluation of the satisfaction pre op and post operatively was assessed in the interview by third surgeon to avoid bias. The results were statistically analyzed.

Results: In present study preoperative satisfaction level was below 50 in 92.5% patients. 87.5% postoperative patients had excellent and good results. Average preoperative satisfaction in patients were 7.15 (29.8%) and average postoperative satisfaction in patients were 16.83 (70%). Preoperative satisfaction in male patients was 7.73 (32.2%) and postoperative satisfaction in male patient was 18.23 (84.3%). Preoperative satisfaction in female patients was 6.44 (26.8%) and postoperative satisfaction in female patient was 15.11 (63%). In present study minimal preoperative satisfaction value was 5 (20.80%) and maximum postoperative satisfaction value was 22 (91.66%).

Conclusions: Patient satisfaction is aim of septorhinoplasty. Hence an attempt is made to assess and understand patient expectations to achieve realistic goals in septorhinoplasty.

Keywords: ROE, Septorhinoplasty, Satisfaction

INTRODUCTION

The demand for cosmetic procedures is increasing nowadays. It can also improve quality of life, in other way with increased job opportunity in competitive world. Appearance of nose is definitely concerned with beauty and personality. Septorhinoplasty has become one of the main cosmetic surgeries performed by otorhinolaryngologists. There are different indications for septorhinoplasty procedures such as to relieve nasal obstruction, to give better cosmetic appearance or as treatment of sleep apnea syndrome. Thus septorhinoplasty has done to relieve nasal obstructions and

thus improves quality of life and second it gives better cosmetic appearance by giving better nasal shape. The evaluation of the final result of the intervention is done according to patient's satisfaction score. This study based on sets of simple questionnaire, rhinoplasty outcome evaluation (ROE) questionnaire.¹ ROE questionnaire tried to evaluate patient's satisfaction and his expectations and social image.² Patients willing for cosmetic surgery may have some mental element. In such patients septorhinoplasty procedure may have negative outcome.³⁻⁵ Challenge that surgeon face is to know patient's expectations and council the patient regarding the

surgical outcome of septorhinoplasty as per individual patient's expectation.

METHODS

Prospective study of 40 patients who underwent septorhinoplasty in Government medical college hospital over period of 2 years from February 2014 to January 2016 was included in this study. Patients were studied as per their age, sex, and postoperative satisfaction level. Postoperative and preoperative assessment was done with the help of ROS (rhinoplasty outcome evaluation questionnaire). The questions were asked as an interview So as to give maximum comfort to the patients.⁶

Detailed history, clinical examination was made and the ROE questionnaire was asked to patients as an interview and satisfaction score was recorded by third surgeon to avoid bias. Actually it is double blind trial. The interview of patient was taken by non-operated surgeon. Basic investigations were done. Preoperative nasal endoscopy was done in every patient to rule out level of obstruction. Whenever needed CT 3D face was done. All patients were operated by closed rhinoplasty method. Post-operative evaluation was done after 6 weeks. Aim of the septorhinoplasty procedure was to correct nasal septal deformities, to give better cosmetic appearance, to fulfill demands of patients and to assess satisfaction of patients preoperatively and postoperatively.

Table 1: ROE questionnaire.

Q. No	Questions
1	Do you like how your nose looks? Absolutely no (0), A little (1), More or less (2), Very much (3), Absolutely yes (4)
2	Do you breathe well through your nose? Absolutely no (0), A little (1), More or less (2), Very much (3), Absolutely yes (4)
3	Do you believe your friends and people who are dear to you like your nose? Absolutely no (0), A little (1), More or less (2), Very much (3), Absolutely yes (4)
4	Do you think the current appearance of your nose Hampers your social or professional activities? Always (0), Frequently (1), Sometimes (2), Rarely (3), Never (4)
5	Do you think your nose looks as good as it could be? Absolutely no (0), A little (1), More or less (2), Very much (3), Absolutely yes (4)
6	Would you undergo surgery to change the appearance of your nose or to improve your breathing? Certainly yes (0), Very likely yes (1), possibly yes (2), probably no (3), Certainly no (4).

Patients included in this study were above the age of 20 years. Both male and female patients were included. Patient with external nasal deformity with or without nasal obstruction were included. Patients less than 20 years of age, patients with nasal mass or polyp, patient on psychiatric treatment and patients with any contra-indication to surgery were excluded.

Consent was taken from the patient for the procedure. All the cases were done under general anesthesia. All patients were operated by closed rhinoplasty method. Routine antibiotics were prescribed and the sutures were removed after 1 week and discharged. Routine follow up was done after 2 weeks and 6 weeks postoperative period. The ROE questionnaire was applied aiming to measure the satisfaction of the patient at 6 weeks postoperative period and the results were analyzed as follows.⁷

Each question has five options between 0 and 4. For all six questions total score was calculated. Result was divided by 24 and multiplied by 100 (Zero represents minimum satisfaction and 100 the maximum one). The final result was then divided in classes.

Using paired-t test, preoperative and postoperative satisfaction score of patients who had undergone septorhinoplasty was noted.

RESULTS

Age and sex distribution of patients

In our study which consisted of 40 patients, 45% (18) were females 55% (22) were male. There was male preponderance in our study.

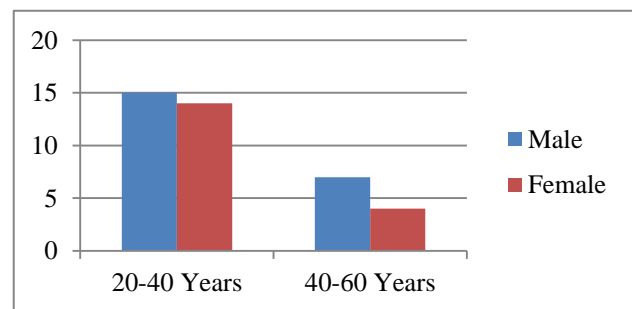


Figure 1: Sex distribution of the population.

Among 18 females in the study group 14 were aged between 20-40 years and 4 were between 40-60 years. Among 22 males 15 patients were between 20 -40 years age group and 7 patients were between 40 to 60 years age group.

Out of total 40 patients, 37 patients (92.5%) had preoperative satisfaction score below 50. These candidates were considered as poor satisfaction level.

57.5% patients were improved postoperatively to good satisfaction score and 30% were improved postoperatively to excellent satisfaction level. 2 patients with satisfaction of 45.8% were considered as failure cases but both cases were improved from pre-op satisfaction level of 20.8% and 29.16% to 45.8%. The results were explained to both these patients preoperatively because of thick skin and shorter nasal pyramid. So in present study no patient get worsening of satisfaction level postoperatively.

Table 2: Preoperative and postoperative number of patients with their satisfaction level.

Score	Preoperative (no. of patients)	Postoperative (no. of patients)	Total
<50 (poor)	37 (92.5%)	02	39
50 to <75 (good)	3 (7.5%)	26 (57.5%)	29
>75 (excellent)	00	12 (30%)	12
Total	40 (100%)	40 (100%)	80

Mean preoperative satisfaction in male patients was 7.73 (32.2%) and mean postoperative satisfaction in male patient was 18.23(84.3%) as given in Table 3.

Table 3: Satisfaction of the male patients pre and post operatively.

Male	Preoperative satisfaction	Postoperative satisfaction
n	22	22
mean	7.73	18.23
SD	2.31	3.26

Above table, $t=13.65$, $p < 0.01$; Using paired-t Test, there was significant postoperative satisfaction in male patient.

Mean preoperative satisfaction in female patients was 6.44 (26.8%) and mean postoperative satisfaction in female patient was 15.11(63%).

Table 4: Satisfaction of the female patients pre and postoperatively.

Female	Preoperative satisfaction	Postoperative satisfaction
n	18	18
mean	6.44	15.11
SD	1.82	1.71

Using paired-t Test, $t=17.16$, $p < 0.01$; Using paired -t Test, there was significant postoperative satisfaction in female patients

Mean satisfaction score was slightly more for male patients than female patients. Mean preoperative satisfaction for total patients was 29.8% and mean

postoperative satisfaction score for total patients was 70%.

Table 4: Satisfaction of the total patients pre and postoperatively.

Sex	Preoperative satisfaction	Postoperative satisfaction
Male	7.73 (32.2%)	18.23 (84.3%)
Female	6.44 (26.8%)	15.11 (63%)
Total	7.15 (29.8%)	16.83 (70%)

DISCUSSION

Septorhinoplasty is one of the cosmetic surgeries routinely performed by otorhinolaryngologists. Various studies assessed the results of septorhinoplasty such as photographic methods, ROE questionnaire, normality values for questionnaire, NOSE questionnaire, etc. The results were better assessed with the expectations and satisfaction of the patients after surgery. So selection of patient and preoperative counselling of patients plays major role in the view of results of surgery. Few patients remain unsatisfied after surgery. Considering that preoperative evaluation plays important role to assess the expectations of patients. We assessed 40 patients preoperatively and postoperatively. The study population is rural and urban Indian population visited to medical college hospitals. In this study we used the questionnaires validated by ALSSARF et al.¹ Rhinoplasty outcome evaluation (ROE) is a useful method for measurement of satisfaction of patients following rhinoplasty.^{1,7} Some studies used translated versions into Portuguese (BR).⁸ The translated version of ROE may be responsible for the large difference in satisfaction level so validation of the questionnaire in the particular languages is mandatory. Most of the patients were Marathi speaking. The ROE questionnaires⁷ asked as an interview preoperatively. Because of this process patient remain open with the doctor with comfort.

In the present study we assessed patient according to satisfaction level and compared with age, sex and satisfaction of the patients. All patients had undergone septorhinoplasty. The patients with high scores in the preoperative were not always pleased after the surgery because of their high and imaginary expectations. Such candidate were likely to get worsen in the satisfaction level after surgery. In present study 3 patients had preoperative score above 50%.Two of them had good postoperative results and one had excellent result. Being high preoperative score patients were not worsening. That may be because of better preoperative counselling of patients. And results were explained to the patients as the skin was thick. Patients with high preoperative satisfaction score were likely to get worsen because of their expectations. So it is important to know preoperative satisfaction level and patients expectations beforehand to council the patients accordingly to get

better results. Normality values for ROE questionnaire was studied by Izu et al to get better post-operative results.⁹

Age and sex distribution of patients

In our study which consisted of 40 patients, 45% (18) were females 55% (22) were male. There was male dominance in our study. There was male dominance in the total ENT patients. Male dominance is as per sex distribution of society. Most of the patients were between 20-40 years (72.5%). This age group is working and young and more concerned with external appearance of nose.

In present study, we noticed that majority of patients undergoing rhinoplasty were male (55%). Erdem & Ozturan reported that the number of males was more than females.¹⁰ This may be explained because of correction of deviated septum which is more common in males due to more exposure to trauma. In contrast, the rhinoplasty procedure where only cosmetic expectations were there female preponderance had seen in study done by Ferraro et al where males were less likely to seek rhinoplasty than females (20% males: 80% females).¹¹

Most of the patients were between 20-40 years age group (72.5%). This age group is working and young and more concerned with external appearance of nose. Among them, males and female were with mean age of 32 years. Females were less satisfied than males following rhinoplasty. In the preoperative we noticed that 92.5% of patient had satisfaction of <50. In postoperative there was 95% patients with satisfaction score above 50. The score <50 was considered as failure, score 50 to <75 was considered to be good (57.5%) and score >75 considered to be an excellent outcome (30%). 2 patients had score <50 postoperatively. But there was not worsening of satisfaction. The results were pre-counselled to patients because of thick skin. So, we noticed that 100% of patients had improvement from preoperative to postoperative satisfaction.

In 2 cases, postoperative satisfaction level was below 50%. But in both cases there was improvement in satisfaction level from 20.8% and 29.16% to 45.80%. The prognosis was explained to patient during pre-op counselling. Mean preoperative satisfaction level in total 40 patients was 7.15 (29.8%) and mean postoperative satisfaction level in total 40 patients was 16.83% (70%). This result was similar to study done by Biggs et al where the mean ROE score (postoperative) was 73.3%.¹² Various studies done had patient postoperative satisfaction scores within the mean range of 69.75–85.4%.^{1,2,8,13-17}

In female patient preoperative satisfaction level was 26.8% and postoperative satisfaction was 63% while in male patients preoperative satisfaction level was 32.2%

and postoperative satisfaction was 84.3%. In present study male had higher level of postoperative satisfaction. These observations were similar to the study done by Tenthly Deepalakshmi et al in 2015.¹⁸ Female patients were with high expectation levels and require pre-operative counselling regarding their expectations. It is important to predict the results of surgery preoperatively so as to avoid harassment by patient and legal actions.¹⁹

In present study average difference in satisfaction level was 40.2. In study done by Meningaud et al² average increase in satisfaction was 33.42. Izu et al found increase in satisfaction level 36.12%.²⁰ Alsarraf et al found increase in satisfaction was 44.5.¹ Present study results were comparable to Alsarraf et al.¹ Normality values may predict outcome of rhinoplasty surgery.⁹

In present study minimal pre-op satisfaction value was 5 (20.80%) and maximum post-op satisfaction value was 22 (91.66%).

CONCLUSION

The goal of rhinoplasty is to give maximum satisfaction of patients. To understand patient's expectation before surgery is important aspect which prepares patient and doctor both in decision making.

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