



## ASSESSMENT OF SURGICAL OUTCOMES OF RHINOPLASTY – A CLINICAL STUDY

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### ABSTRACT

Rhinoplasty is one of the most common cosmetic surgery performed by the otorhinolaryngologists. The main indication for rhinoplasty is cosmetic or functional or both. In regard to paucity of research regarding patient satisfaction after surgery, we have done this prospective clinical study in our hospital. 40 patients were included in the study from January 2012 to December 2012. Rhinoplasty Outcomes Evaluation (ROE) Questionnaire was applied to all the patients and evaluation of the satisfaction pre op and post operatively was assessed and the results were statistically analysed. The age of the study group ranged from 20 yrs to 39 yrs with the mean age of 24.85 +/- 3.43 years.

The average satisfaction mark of patients undergoing rhinoplasty in pre-operative state was 28.05 & post-operative it improved and reached to 67.91. The average satisfaction of female were 26.75 preoperatively reached to 63.68 postoperatively. The average satisfaction of male were 31.2 preoperatively reached upto 67.91 post operatively. The degree of the satisfaction pre and post operatively was compared using student t test and paired t test. It was 67.91 in males and 36.53 among females which was statistically significant ( $p < 0.05$ ). Patient satisfaction is as important as technical aspects of rhinoplasty. Hence a novel attempt is made in this direction to assess and understand patient expectations to achieve realistic goals in rhinoplasty.

## Introduction:

Beauty is very subjective and it may define personality, self confidence and which may depend on mindset of person. So in today's competitive world aesthetic surgery has become all more important than even before.

Rhinoplasty has become one of the main cosmetic surgeries performed by otorhinolaryngologists and plastic surgeons. The major indications for rhinoplasty are cosmetic and cosmetic-functional. Cosmetic-functional rhinoplasty, or rhino-septoplasty, means the cosmetic repair of the nasal pyramid, together with surgery of the nasal septum in order to improve patient complaints associated with nasal obstruction and hyposmia. In those cosmetic-only procedures, the physician must assess the reason for which the patient wishes to be submitted to the procedure. Often times, the reason involves the need to please other people, social or professional ambition<sup>1,2,3,4,5</sup>.

Most articles that approach the theme of aesthetic surgery offer discussions on surgical techniques, pathways, complications, sequels and review rates. The evaluation of the final result of the intervention is not a very common research by the viewpoint of the patient and this analysis is critical since the patient's satisfaction is a key factor for the surgical success<sup>1,2,3,4</sup>.

So, we undertook this study based on sets of simple questionnaire ( Rhinoplasty outcome evaluation (ROE) questionnaire) and tried to evaluate patient's satisfaction, his expectations, how he feels, what society feels, how is his personality and self confidence and professional activities affected<sup>6,7,8,9,10,11,12,13,14</sup>.

Rhinoplasty Outcome Evaluation (ROE) is an easy-to-use questionnaire that allows comprehensive assessment of rhinoplasty-related patient satisfaction.<sup>8</sup>

## AIMS AND OBJECTIVES

To evaluate the satisfaction of the patients following rhinoplasty from the questionnaire Rhinoplasty Outcome Evaluation (ROE) .

## MATERIALS AND METHODS

This was a longitudinal clinical study with retrospective analysis of pre operative status and prospective analysis of patient satisfaction carried out in the Department Of Otorhinolaryngology and Head & Neck Surgery from January 2012 to December 2012. 40 patients with complaints of external nasal deformity with or without nasal obstruction attending the outpatient department were included in the study.

## INCLUSION CRITERIA

1. Patients 18 year & above & both sexes
2. Patients with external nasal deformity with or without nasal obstruction.

## EXCLUSION CRITERIA

1. Patients lesser than 18 years of age
2. Patients diagnosed with psychiatry illness
3. Any contra indication to surgery

The study was approved by the ethical committee. After informed consent, detailed history and a thorough clinical examination were made and the ROE questionnaire was applied to all the patients. All the cases were done under general anaesthesia. Rhinoplasty was performed using the external approach. Routine antibiotics were prescribed and the sutures were removed after 1 week and discharged. Routine follow up was done after 2 weeks and 1 month. The ROE questionnaire was applied aiming to measure the satisfaction of the patient at 1 month and the results were analysed as follows <sup>7,8</sup> ( Table 1. Rhinoplasty Outcomes Evaluation)

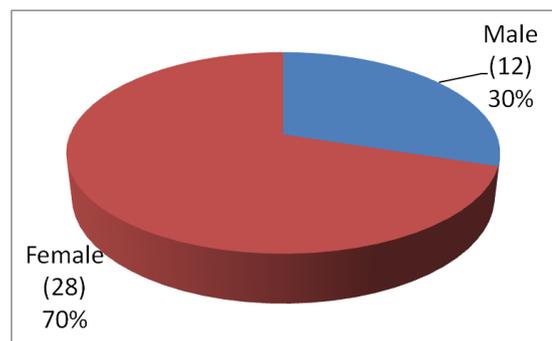
- 1) How much do you like the appearance of your nose?
- 2) How much can you breathe through your nose?
- 3) How much do you think your friends and those close to you like your nose?
- 4) Do you think the appearance of your nose limits your social or professional activities?
- 5) How safe are you that your nose has the best possible appearance?
- 6) Would you like to surgically change the appearance or function of the nose?

Each question in the questionnaire was answered with scores within a scale between zero and four (zero being the most negative answer, and four being the most positive one). In order to reach the final result in the scale, we added up the responses from each question, and such result was divided by 24 and multiplied by 100 and from that we obtained a value which varied between zero and 100 (zero represents minimum satisfaction and 100 the maximum one).

The final result was then divided in classes, according to quartiles: zero to <25 and 25 to <50 (failure); 50 to <75 (good); and  $\geq 75$  (excellent).

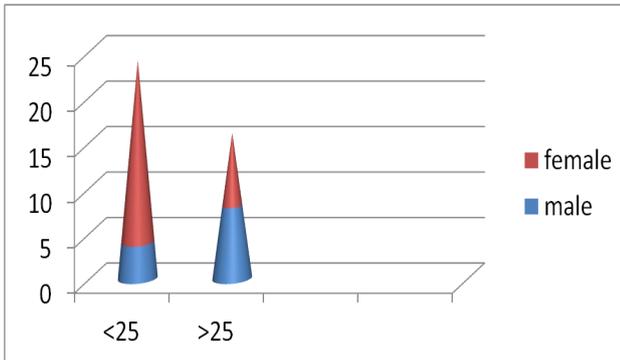
## OBSERVATIONS AND RESULTS

In our study which consisted of 40 patients, 70% (28) were females 30% (12) were male (Diag 1. Chart showing the sex distribution of the population). The age of the patients ranged from 20 yrs to 39 yrs with the mean age of 24.85 +/- 3.43 years. The mean age of females was 23.78 +/- 2.76 yrs and that of males was 27.33 +/- 1.74yrs



Diag 1. Chart showing sex distribution of the population

Among 28 females in the study group 20 were aged less than 25 yrs and 8 more than 25. 4 males were aged less than 25 and 8 were more than 25 yrs ( Diag. 2 Chart showing age distribution).



Diag 2. Chart showing age distribution of the study population

Moment		Pre-op	Post op	Total
	< 25			
	25to <50 (failure)	2 (5%)	0	2 (5%)
	50 to <75 (good )	10 (25%)	12 (30%)	22 (55%)
	=or> 75 (excellent)	0	16 (40%)	16 (40%)
Total		12(30%)	28 (70%)	40 (100%)

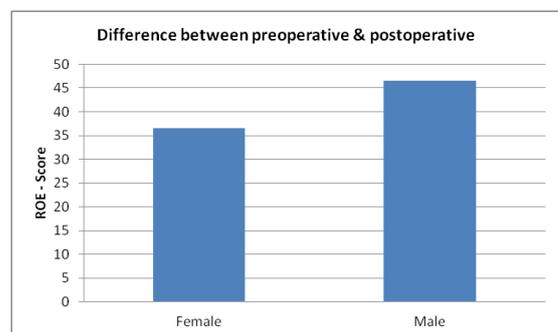
Table 2. Satisfaction of the patients pre op and post operatively

The average satisfaction mark (Table – 2 Table showing the satisfaction of the patients pre op and post operatively.) of patients undergoing rhinoplasty in pre-operative approach was 28.05 & post-operative it improved & reached 67.91. The average satisfaction of female were 26.75 preoperatively reached to 63.68 postoperatively. The average satisfaction of male were 31.2 preoperatively reached up to 67.91 (Diag.3 Table showing Pre op and post op satisfaction) .

	Pre-op	Post-op
Female	26.75	63.68
Male	31.2	77.77
Total	28.05	67.91

Table 3. Average satisfaction of male and female patients

The difference in satisfaction score from preoperative to postoperative was 36.53 for female & 46.57 for male, overall it was 39.86. As regard to age group patient was divided < 25 or = >25 group, difference in satisfaction score from preoperative to postoperative was 37.26 in < 25 years age group patients & 44.28 in = or > 25years age group patients.



The degree of the satisfaction pre and post operatively was compared using student t test and paired t test. It was 67.91 in males and 36.53 among females which was statistically significant ( $p < 0.05$ ).

## DISCUSSION

There can be many factors which can influence the satisfaction of patients undergoing rhinoplasty such as their life experience culture, age, gender, their level of expectations, patient's mindset. Although often times the procedure may be considered as success by surgeon the patient may not be pleased by it and the opposite may also be true. Therefore, it is essential for surgeon to understand the complaints of patients and have an insight about his expectations<sup>11,13,15</sup>.

Some questionnaires which assess quality of life and self image have become gold standard and came to replace the simplistic way used to ask the patient whether or not he or she noticed any improvement after surgery. In this study we used the questionnaires prepared and validated by ALS-SARF et.al that is an easily applicable instrument to measure the satisfaction of patient following rhinoplasty called Rhinoplasty Outcome Evaluation questionnaire. Rhinoplasty outcome evaluation (ROE) is a useful tool for measurement of satisfaction following rhinoplasty.<sup>8</sup> The use of broadly accepted questionnaire brings about great advantage because it standardises assessment and enables a comparison of different techniques, it helps to measure the positive and negative effects and to identify possible patients who benefit from surgery.

After data collection, we obtained three variables: satisfaction score that the patient had with his/her own image before surgery; satisfaction score with the current result; and the difference between the pre and postoperative satisfaction scores. We surveyed the data concerning: age, gender, and postoperative follow up. In this study, we noticed that majority of patients undergoing rhinoplasty were female (70%) compared to male which comprises of 30% which was very much comparable to other studies. Younger patients comprised the majority of the patients<sup>9</sup>. Among them, female were younger with mean age 23.78 +/- 2.76 yrs compared to male who came at slightly older age with mean age of 27.33 +/- 1.74yrs. So the young females are more forthcoming to undergo rhinoplasty. Females are less satisfied than males following rhinoplasty. In the preoperative we noticed that all i.e 100% of patient had satisfaction of < 50. In postoperative there was 95% migration from classification of < 50 to category 50 to <75 considered to be good (55%), = or > 75 considered to be an excellent outcome (40%). 5% had score < 50 post-operatively still the score was not worse than the preoperative score in these patients. So, we noticed that 100% of patients had improvement from preoperative to postoperative approaches i.e in no patient the satisfaction mark in postoperative was lower than preoperative score.

We noticed failure cases i.e 5% (2 cases) were those whose pre-operative score was very less i.e < 25. But even these patient postoperative satisfaction score improved but it was < 50, hence considered failure. In patient whose preoperative score was very poor i.e < 25 the best result was that they migrated to group of 50 to < 75 i.e good result, they were satisfied but not fully satisfied. The best result were among those whose preoperative scores >25 & they were more satisfied, 30% had good result & 40% cases had excellent result = or > 75. Overall 95% patient migrated to = or > 50 group. So in 95% cases had success. The classification in quartiles helps the surgeon define which are the patients who can be benefitted with surgery. The average satisfaction in the females was 63.68 and 77.77 in males. The average improvement in the satisfaction noted was 67.91 which was statistically significant. This was quite comparable with the study done by Alsaraaf et al (44.5) which assessed patients submitted to rhinoplasty regardless of surgical technique utilised. Megumi et al reported satisfaction of 48.3 ( $p < 0.05$ ) which was comparable with our study. So, while counselling patients for rhinoplasty we have to be careful, especially with the female patients. We have to understand what are their expectations & accordingly explain the results which can be expected, so that these groups of patients are less dissatisfied following surgery.

## CONCLUSION

The goal of aesthetic surgery is to reshape the normal structures and restore youthful appearance which helps to improve patient's self image. Although technical aspects of aesthetic surgery are important we believe that patient satisfaction is the factor that dictates the success of procedure. Hence, we have made a novice attempt to determine the satisfaction of the patients undergoing rhinoplasty.

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