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QUALITY OF LIFE (QOL) AFTER FUNCTIONAL ENDOSCOPIC SINUS SURGERY (FESS) IN PATIENTS WITH CHRONIC RHINOSINUSITIS (CRS).

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ABSTRACT

BACKGROUND: CRS in adults is among common medical conditions for which people seek treatment, leading to significant direct medical expenses. **OBJECTIVE:** To assess enhancement in patients' QOL symptomatically following FESS. STUDY **DESIGN:** Descriptive Study **PLACE AND DURATION OF STUDY: METHODOLOGY:** 100 individuals, with or without nasal polyposis, had surgery for CRS. Before beginning any operation, as well as at 1, 3, 6 9 and 12 months following endoscopic sinus surgery, our patients underwent an item-by-item SNOT-22 test. SPSS Version 26 was utilized to analyse data, P-value of <0.05 was deemed significant statistically. **RESULTS:** The mean age of 100 patients in our research was 35.33 + 5.14 years, with 59 (59%) of them being male. 28 patients (28%) were diagnosed with CRS with polyps, 40 patients (40%) were diagnosed with CRS without polyps, 32 patients (32%) had an allergic fungal sinusitis diagnosis, and 23 patients (23%) had a history of asthma. The preoperative SNOT scores were greater, according to the results of the One-Way ANOVA, but they substantially decreased at the first, third, sixth, and twelve months after surgery after FESS. **CONCLUSION:** This study indicated that FESS is the best surgical option for CRS

KEYWORDS: Chronic Rhinosinusitis, FESS, Quality of Life, SNOT-22

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INTRODUCTION

CRS in adults is among common medical conditions for which people seek treatment, leading to significant direct medical expenses.[1] There are 2 types of chronic rhinosinusitis (CRS): those with and without nasal polyps. Clinical examination, histopathologic results, interleukin profile, and prognosis are used to distinguish patients. Nasal congestion, obstruction, or blockage combined with face discomfort, heaviness, or mucopurulent secretion or anosmia for >3 months is known as CRS with or without nasal polyps (CRS/NP).[2] It is among the main causes of antibiotic prescriptions and decreased worker productivity.[3,4] It is well acknowledged in the research that CRS/NP significantly affects patients' QoL, which

implies significant costs to society in the form of lost productivity, missed work, and health care resource consumption.[5-7]. FESS is treatment of choice for individuals non-responsive to medicinal therapy. Patients themselves are the only ones who can truly understand the benefits of this treatment by comparing their quality of life before and after treatment. As a result, it is crucial to assess each CRS symptom in light of overall health conditions & QoL. It has significant effect on QoL.[8] It has been discovered that the impact may be more significant than in other chronic conditions such CHD or CODP.[9,10] This study's objective was to assess the degree to which each CRS symptom affects a patient's overall health both before and after the FESS operation.

METHODOLOGY

Over the course of six months, a group of 100 CRS patients participated in the study. Non-probability sequential sampling was employed, and written informed permission was obtained. Patients having a diagnosis of CRS who were older than eighteen years, regardless of gender, and who had undergone a FESS operation during the previous six months met the inclusion criteria. Patients with musculoskeletal disorders, diabetes, urid acid disease, severe asthma, gastric and duodenal ulcers, and other clinically significant severe systemic illnesses were not included since they might affect the patient's perception of their overall health. Using the OPENEPI calculator, sample size was determined to be 100 based on the prevalence of CRS, which is 46%3, margin of error = 10%, and confidence interval = 95%.

Age, gender, diagnosis, and sthma data were gathered. A single interrogator completed SNOT-22 questionnaire to gauge individuals' QoL at their preoperative clinic appointment. The same questionnaire was subsequently completed during postoperative follow-up visits on the first, third, sixth, and twelve-month marks.

SNOT-22 QUESTIONNAIRE

SNOT-22 (Sino Nasal Outcome Test-22) is a validated 22-item CRS-specific quality of life instrument which is scored by using Likert scale where 0 = No problem, 1 = Very mild problem, 2 = Mild or slight problem, 3 = Moderate problem, 4 = Severe problem and 5 = as bad as it can be. A higher SNOT-22 score indicates a worsening state or more severe symptoms. The range of total score is 0 to 110.[11]

The study's purpose and confidentiality were explained to the participants, along with their freedom to withdraw their informed authorisation at any moment during its course without facing any repercussions or treatment changes.

IBM-SPSS version 23.0 was utilized to store & analyse data. Counts & percentages were provided for gender, diagnosis, recurrence, revision of surgery, & presence of asthma. The mean & standard deviation for age, intraoperative time in minutes, & SNOT scores at preoperative & follow-up stages were also reported. The pre-operative SNOT scores were compared with the first, third, sixth, and twelve-month SNOT scores using a paired sample t-test.

RESULTS

This research, out of 100 patients, 59% (n = 59) were men, mean age was 35.33 $\pm$ 5.14 years. 28 (28%) were diagnosed as CRS with polyps, 40 (40%) CRS without polyps & 32 (32%) as allergic fungal sinusitis & 23 (23%) were asthmatics (Table 1).

Results of One-Way ANOVA revealed that preoperative SNOT scores were greater but after FESS they declined considerably at 1st, 3rd, 6th and 12th months post operatively (Table 2).

TABLE #1: BASELINE DETAILS OF THE PATIENTS.

Baseline details	**Mean ± SD/ n(%)**
Age in years (mean ± SD)	35.33 ± 5.14
Intraoperative time in minutes (mean ± SD)	61.53 ± 3.59
Gender	
• Male	59 (59%)
• Female	41 (41%)
Diagnosis	
• CRS with polyps	28 (28%)
• CRS without Polyps	40(40%)
• Allergic fungal Sinusitis	**32 (32%)**
Presence of Asthma	
• Yes	23 (23%)
• No	77 (77%)

TABLE#2: PRE-OPERATIVE & POST-OPERATIVE SNOT SCORES.

Baseline	**1st montl SNOTT Score**	**3rd montl SNOTT Score**	**6th montl SNOTT Score**	**12th month SNOTT Score**	**P-value**
55.46 ± 11.56	13.65 ± 11.56	11.48 ± 2.69	12.49 ± 1.251	12.65 ± 2.189	

DISCUSSION

The majority of persons have chronic rhinosinusitis, a multifactorial morbid disease.[12] Eliminating nasal discharge and enhancing airflow and smell are the primary objectives of managing chronic rhinosinusitis, which will enhance patients' QoL. For individuals who didn't react to medicinal treatment, FESS has emerged as gold standard surgical procedure.[13,14] Objective data, such as CT scanning and nasal endoscopy, have previously been used to evaluate the response to therapy. It has been discovered in the literature that neither radiological results nor nasal endoscopy were correlated with the severity of the symptoms that patients were experiencing. In order to comprehend the results of surgery, doctors turned their attention to subjective illness evaluation as a result of this discrepancy.[15] As a result, many disease-specific questionnaires, including the Chronic Sinusitis Survey (CSS), Rhinosinusitis Disability Index (RSDI), Sino-Nasal Assessment Questionnaire 11 (SNAQ-11), & Sino-Nasal Outcomes Test (SNOT-22), have been created to gauge patients' quality of life. The most used and verified questionnaire is SNOT-2211.[16] The same tool was used in our study to evaluate patients' quality of life following surgery. Males made up 59% of the study's participants, which is similar to the literature[17]. The study's mean age was 35.33 + 5.14 years, which is also in line with findings from earlier studies.[17,18] There were three subgroups identified: allergic fungal sinusitis, CRS with polyps, & CRS without polyps. Numerous investigations have demonstrated a link between asthma and chronic rhinosinusitis.[19] In a similar study, 22.2% of the participants in our research experienced asthma in the past. SNOT-22 ratings, which were higher before surgery and subsequently considerably lower after, were used in this study to evaluate the patients' quality of life. The average pre-operative SNOT-22 scores were 55.4; they were lowered to 13.65, 11.48, 12.5, and 12.65 in the first, third, sixth, and twelve months following surgery, respectively. Additionally, following functional endoscopic sinus surgery, Hopkin et al;

demonstrated a considerable improvement in mean scores, which went from 42 in SNOT-22 prior to operation to 25.5 in early post-operative period & 27.7 in late post-operative period.[20] While preoperative SNOT ratings are similar, this research revealed a more decline in SNOT scores throughout the postoperative phase. A statistically significant enhancement in mean SNOT-22 scores from 61.3-16.9 in the third month & 32.3 in late post-operative term was also demonstrated by Mascarenhas et al; in another research.[21] The study's preoperative and postoperative third-month SNOT scores are harmonized with our results, however the late follow-up SNOT-22 scores revealed a decrease in enhancement, which runs counter to our findings. However, a research by Qadeer S. and colleagues also showed comparable results, showing that while the SNOT score improved, there was no drop in the late follow-up.

The study's strength is that it included all of the main subtypes of CRS for purpose of assessing QoL; its drawback is that it was only conducted at one institution.

CONCLUSION

The greatest operative therapy for CRS, according to this study, is FESS. Patients' QoL has significantly improved in all three of the chronic rhinosinusitis subgroups, as determined by the "SNOT-22 questionnaire".

ETHICS APPROVAL: The ERC gave ethical review approval.

CONSENT TO PARTICIPATE: written and verbal consent was taken from subjects and next of kin.

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AUTHORS' CONTRIBUTIONS:

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated in the work to take public responsibility of this manuscript. All authors read and approved the final manuscript.

CONFLICT OF INTEREST: No competing interest declared

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