



## COMPARATIVE ASSESSMENT OF QUALITY OF LIFE IN PATIENTS UNDERGOING ENDOSCOPIC SINUS SURGERY VERSUS CONSERVATIVE MANAGEMENT FOR SINONASAL PATHOLOGY

### Otorhinolaryngology

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### ABSTRACT

**Introduction:** Sinonasal obstruction is one of the most common health problem faced today that results in not only compromising quality of life of the person but also in a huge financial burden for the country. The need for evaluation and appropriate medical management is increasing every year<sup>1,2</sup>.

The World health organization (WHO) defines quality of life as in individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.

It has also been documented that sinusitis related symptoms negatively affect social relations, reduces patient's daily activities and also disturbs sleep<sup>2</sup>.

**Methodology:** Case control analytical study was done where patients who opted for conservative management and those who opted for surgical management were taken. The quality of life was observed before and after the treatment and then assessed in Father Muller Medical college after obtaining institutional ethical clearance. the data compared the age, sex and the effect of medical and surgical management. Data was analysed by mean, median, standard deviation, frequency, percentage and 't' chi-square test.

**Result :** The result was analysed using mean, standard deviation, frequency percentage and 't' chi-square test.

**Conclusion:** There is significant improvement of symptoms between the patients treated with medical and surgical management . SNOT- 22 is a useful questionnaire to assess the sinonasal pathology.

### KEYWORDS

#### INTRODUCTION

Nasal polyps and chronic rhinosinusitis are leading health problems, affecting majority of adults. Nasal polyposis are benign lesions arising from the sinus mucosa or nasal cavity<sup>1</sup>. Chronic rhinosinusitis is due to defective mucociliary clearance that causes stasis of secretion in the sinus. Symptoms such as nasal obstruction, nasal discharge, facial pain and headache are observed in patients<sup>3</sup>. These patients are first managed medically with topical steroids, nasal decongestants, antibiotics, topical nasal saline or mucolytics. However, in some patients, response may not be adequate, thus demanding surgical management. In our study, we compare the quality of life in adults before and after undergoing medical and surgical management.

#### METHODOLOGY

Obtaining an approval from institutional ethics committee, 70 patients with symptoms of sinonasal pathology were selected. After examination, an informed written consent was obtained by explaining the study to them. Radiological evaluation like X ray paranasal sinuses or CT paranasal sinus was done. Initial assessment using SNOT-22 questionnaire helped to determine their quality of life. Half of this group were treated with medical management and the other half with functional endoscopic sinus surgery. Both group were reassessed with the SNOT- 22 questionnaire on follow up.

#### PAIRED T TEST : TO COMPARE BEFORE AND AFTER VALUES

			N	Mean ± SD	Mean difference ± SD	t	P Value
Control	Pair 1	Total Score	35	27.26±7.84	9.6±6.52	8.71	<0.001
		Total Score After Conservative Management	35	17.66±6.77			
Study	Pair 1	Total Score	35	39.77±11.03	28.26±10.42	16.04	<0.001
		Total Score After Conservative Management	35	11.51±4.75			

#### CONTROL

- On comparison of the mean values of TOTAL SCORE and TOTAL SCORE AFTER CONSERVATIVE MANAGEMENT the mean values of TOTAL SCORE is higher with a difference of 9.6 is statistically significant with a p value of <0.001.

#### STUDY

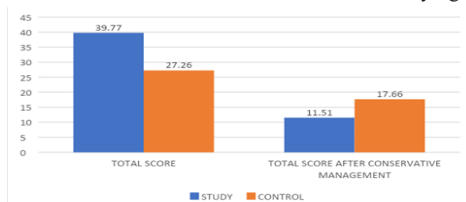
- On comparison of the mean values of TOTAL SCORE and TOTAL SCORE AFTER CONSERVATIVE MANAGEMENT the mean values of TOTAL SCORE is higher with a difference of 28.257 is statistically significant with a p value of <0.001.

#### RESULTS

##### Independent student test: to compare the study and control

	Study (n=35)	Control (n=35)	t	P Value
	Mean ± sd	Mean ± sd		
Age	37.63±14.42	34.97±11.1	0.863	0.391
Total Score	39.77±11.03	27.26±7.84	5.472	<0.001
Total Score After Conservative Management	11.51±4.75	17.66±6.77	-4.397	<0.001
Difference In Scores	28.26±10.42	9.6±6.52	8.978	<0.001

Table comparing the mean score difference between pre and post management. It was noted that the difference in score was more in the case of the surgically managed group, and when statistically analysed the P value was observed to be <0.001 which is statistically significant.



The above table compares the mean total score obtained from SNOT-22 questionnaire on initial assessment of the subject and after conservative management of the subjects.

#### Chi Square Test For Comparison Of The Categorical Variables Sex \* Group

Crosstab			
	GROUP		Total
	Control	Study	

SEX	F	Count	21	21	42
		% Within Group	60.0%	60.0%	60.0%
	M	Count	14	14	28
		% within Group	40.0%	40.0%	40.0%
Total		Count	35	35	70
		% within Group	100.0%	100.0%	100.0%
<b>Chi-Square Tests</b>					
	Value	df	P value(<0.05 is significant)		
Pearson Chi-Square	<0.001	1	1.000		

The number of male subjects in the control and the study was 14 and that of the female subjects were 21 each. The study and the control group were sex matched and taken into consideration.

**POLYP\* GROUP**

<b>Crosstab</b>					
			GROUP		Total
			CONTROL	STUDY	
POLYP	NO	Count	16	18	34
		% within GROUP	45.7%	51.4%	48.6%
	YES	Count	19	17	36
		% within GROUP	54.3%	48.6%	51.4%
Total		Count	35	35	70
		% within GROUP	100.0%	100.0%	100.0%
<b>Chi-Square Tests</b>					
	Value	df	P value(<0.05 is significant)		
Pearson Chi-Square	.229	1	.632		

In our study when comparing both the case and the control it was observed that, 54.3% of the control group and 48.3% of the study group had polyps. When a chi-square test was performed to assess the correlation between the presence of polyps and the study groups, it was noticed that there is no significant relation, the observed P value was 0.632.

**SINUSITIS \* GROUP**

<b>Crosstab</b>					
			GROUP		Total
			CONTROL	STUDY	
SINUSITIS	NO	Count	19	16	35
		% within GROUP	54.3%	45.7%	50.0%
	YES	Count	16	19	35
		% within GROUP	45.7%	54.3%	50.0%
Total		Count	35	35	70
		% within GROUP	100.0%	100.0%	100.0%
<b>Chi-Square Tests</b>					
	Value	df	P value(<0.05 is significant)		
Pearson Chi-Square	.514	1	.473		

Based on the above values in our studies to assess the quality of life in patients with sinonasal pathology. There was a significant difference on those conservatively managed compared with surgically managed. There was significant improvement after FESS using SNOT 22 scale.

**DISCUSSION**

According to the findings of this study, there is a significant difference between the quality of life in patients treated conservatively and those treated surgically. In the group taken as control, the mean values of total score and total score after conservative management, the mean values of total score is higher with a difference of 9.6 is statistically significant with a p value of <0.001. in our study, on comparison of the mean values of total score and total score after conservative management, the total score is higher with a difference of 28.257 is statistically significant with a p value of <0.001.

A study done by Teul I et al in Poland to assess the quality of life in

patients with disease showed there was significant decrease in the quality of life in patients who suffered chronic and acute sinusitis. A similar study was conducted by Baumann I to assess the quality of life using a questionnaire before and after treating patients with chronic rhinosinusitis and nasal polyps<sup>5</sup>. It was found that the questionnaire had a great impact in uniformly and accurately assessing the quality of life of an individual<sup>6</sup>. It was also noted that in a study conducted by Alobid I et al in patients with chronic rhinosinusitis and nasal polyps, the role of generic and specific questionnaire in assessing the impact of sinonasal pathology. This study helped to assess the quality of life before and after surgery and found that the quality of life after surgery was significantly improved<sup>5</sup>.

Sarhan NA et al in Saudi Arabia that was published in 2012 showed quality of life improved after medical management for chronic rhinosinusitis. For those who did not improve, endoscopic sinus surgery was done<sup>7</sup>. A study done by Li H, Zhang X et al showed the quality of life assessment between group of patients undergoing surgical and a group of patients undergoing surgical management. This was similar to our results<sup>7</sup>

Clinicians usually focus on objective findings to assess the response from patients after treatment. However, for many disease processes like Chronic rhinosinusitis this methods fails to understand the depth of burden caused by those diseases.

Even the radiographical images fail to correlates the extent of symptom experienced by those individual patients. Imaging techniques like CT failed in pointing out the intensity of symptoms on various degree of sinonasal inflammation. Questionnaire like SNOT-22 shows up then. This in turn, provide a validated means to objectively quantify a patient's perception of their disease burden both before and after intervention<sup>8</sup>.

Analysis of data in a retrospective study from National Comparative Audit of Surgery for Nasal Polyposis and CRS, carried out across 87 hospitals in England and Wales between 2000 and 2001. where 2573 patients have CRS and undergone surgery. In that 1784 patients had nasal polyposis, 789 without nasal polyposis . The quality of life on these two groups have to be studied. Severity of clinical symptoms scores was graded on the Sino.Nasal Outcome Test 22 questionnaire. In both groups, nasal blockage/congestion had the highest mean symptom score, followed by altered smell/taste and then the need to blow nose. These three were most prevalent in group having polyposis. The total Sino.Nasal Outcome Test 22 and all individual symptom scores improved significantly after surgery. Thus the quality of life is enhanced post operative<sup>9</sup>.

**CONCLUSION**

Based on our study to assess the quality of life in patients with sino nasal pathology, we can now conclude that the SNOT 22 questionnaire is a helpful indicator. Patients had significant improvement in symptoms before and after the medical and surgical management. Questionnaire also helps to uniformly assess and treat the patient

**REFERENCES**

1. Bousquet J, Bachert C, Canonica GW, Casale TB, Cruz AA, Lockey RJ, Zuberbier T. Unmet needs in severe chronic upper airway disease (SCUAD). Journal of Allergy and Clinical Immunology. 2009 Sep 1;124(3):428-33.
2. Cohen NA. Sinonasal mucociliary clearance in health and disease. Annals of Otolaryngology & Laryngology. 2006 Sep;115(9 suppl):20-6.
3. Teul I, Zbistawski W, Baran S, Czerwiński F, Lorkowski J. Quality of life of patients with diseases of sinuses. J Physiol Pharmacol. 2007;58(SUPPL. 5):691-7
4. Baumann I. Quality of life before and after septoplasty and rhinoplasty. GMS Curr Top Otorhinolaryngol Head Neck Surg [Internet]. 2010;9:Doc06.
5. Alobid I, Bernal-Sprekelsen M, Mullol J. Chronic rhinosinusitis and nasal polyps: The role of generic and specific questionnaires on assessing its impact on patient's quality of life. Allergy Eur J Allergy Clin Immunol. 2008;63(10):1267-79.
6. Sarhan NA, Abdelfatah A, Wahba AA, Fathallah MA, Al-ahmer MMH. outcome of conservative management of chronic rhinosinusitis in adults : an observational ct-controlled study. 2012;10:192-207.
7. Li H, Zhang X, Song Y, Wang T, Tan G. Effects of functional endoscopic sinus surgery on chronic rhinosinusitis resistant to medication. J Laryngol Otol [Internet]. 2014;128(11):976-80.
8. Soler ZM, Smith TL. Quality of life outcomes after functional endoscopic sinus surgery. Otolaryngologic clinics of North America. 2010 Jun;43(3):605.
9. Abdalla S, Alreefy H, Hopkins C. Prevalence of sinonasal outcome test (SNOT-22) symptoms in patients undergoing surgery for chronic rhinosinusitis in the England and Wales National prospective audit. Clinical otolaryngology. 2012 Aug;37(4):276-82.