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Effect of Preoperative Preparation on Knowledge and Quality of Life Among Patients Undergoing Endoscopic Sinus Surgery

[1]Hagar Abdulraheem Mohammed, [2] Hanan Mohammed Badran, [3]Wafaa Ismail Sherief
1B.SC. in Nursing, Mansoura University, corresponding author Email: hagarshalaby28@gmail.com.
2Assistant professor of Medical-Surgical Nursing Faculty of Nursing, Email: hananbadran24@gmail.com.
3Professor of Medical-Surgical Nursing Faculty of Nursing Mansoura University, Email: dr_wafaaismail@yahoo.com.

ABSTRACT

Background: The preferred course of treatment for people with persistent rhinosinusitis is endoscopic sinus surgery. The overall results and experiences of patients undergoing endoscopic sinus surgery are greatly influenced by preoperative preparation. **Aim:** Evaluate effect of preoperative preparation on knowledge and quality of life among patients undergoing endoscopic sinus surgery. **Method**: A quasi-experimental pretest/posttest research design was used in this investigation. Mansoura University Hospital's Otolaryngology department served as the study's site. For the study, two equal groups of sixty-four patients with chronic rhinosinusitis who underwent endoscopic sinus surgery—whether or not they had nasal polyps—were chosen. Data collection tools include a structured interviewing questionnaire, the Sinonasal Outcomes Test-22, and a self-rating anxiety scale. **Results**: 6.2% of the study group had an outstanding level of general knowledge during the pre-intervention phase; this rose to 84.4% at the post-intervention phase and 78.1% at the follow-up phase. 12.5% of the study group experienced modest levels of overall symptom intensity and health-related quality of life during the pre-intervention phase; by the post-intervention phase, this percentage had improved to 68.8% and the follow-up to 90.6%. Additionally, 9.4% of the study group experienced normal levels of anxiety prior to the intervention, which improved to 62.5% during the post-intervention period and 93.7% during the follow-up after the preoperative preparation was implemented. **Conclusion:** For patients undergoing endoscopic sinus surgery, preoperative education improved knowledge, reduced anxiety, and improved the severity of symptoms and health-related quality of life. **Recommendation:** The Otolaryngology department at Mansoura University Hospital ought to provide educational booklets to patients undergoing endoscopic sinus surgery as part of their health education program.

Keywords; *Quality of Life. Preoperative Preparation, Endoscopic Sinus Surgery*

Introduction

Chronic rhinosinusitis (CRS), one of the most common chronic diseases worldwide, is typified by inflammation of the nasal cavity and paranasal sinuses. Clinically speaking, it is categorized as either chronic rhinosinusitis, whether or not nasal polyps are present. It is linked to clinical complaints of headaches lasting 12 weeks or more, facial pain or pressure, and nasal blockage and loss of smell. The risk factors for this disease include smoking, allergy, septal deviation, aspirin sensitivity and bronchial asthma **(Homood et al., 2017)**. The treatment is highly variable and frequently involves multidrug therapy, when medical therapy is unsuccessful, endoscopic sinus surgery (ESS) may be recommended for symptom improvement **(Kwon & O'Rourke, 2023).**

When CRS is unresponsive to medication, endoscopic sinus surgery (ESS) is a very safe and successful surgical alternative **(Roxbury et al., 2017).** Nasal endoscopy is a minimally invasive treatment used to treat nasal polyps, some malignancies, and inflammatory and infectious sinus illnesses such as chronic rhinosinusitis that does not respond to medication. **(Asiri & Alokby,2019).**

Preoperative preparations are an effective strategy for improving patient knowledge regarding reliving of pain, improve quality of sleep, reduce symptoms of anxiety, help to minimize avoidable complications and optimize long-term outcomes and improve quality of life. It involves teaching patients about techniques like topical decongestants, systemic steroids, oral antibiotics, saline irrigations, and sinus cavity debridement **(Rudmik et al.,2015).**

Quality of life (QoL) is a multi-dimensional concept that focuses on the aspects that are affected by health. It has been demonstrated that chronic rhinosinusitis seriously impairs the physical, mental, and social facets of health-related quality of life. Therefore, improving patients' quality of life is just as important to illness management as prescribing medication or doing surgery. Hence, the role of patient knowledge in this area is very significant to promote healthy lifestyle behaviors of the patients and encourage them to adopt a new life

style that helps in minimize health risks. **(Siboni, Alimoradi, Atashi, Alipour & Khatooni, 2019)**.

Nurses are crucial in educating and assisting patients by integrating the experiences of patients who have previously had surgery and using the proper audiovisual aids **(Sugirtha and Thomas, 2021).**

2.1. Significance of the study

One of the most prevalent inflammatory diseases that affects people of all ages worldwide is chronic rhinosinusitis (CRS). A person's quality of life is significantly impacted by persistent inflammation of the sinus and nasal mucosa. It ranks among the top ten diseases that associated with serious medical treatment costs, reduced workplace productivity, and substantially impaired quality of life. Endoscopic sinus surgery (ESS) has become the gold standard treatment **(Mullol et al., 2022).** Using disease-related questionnaires, numerous research have demonstrated the impact of endoscopic sinus surgery on quality of life; however, to date, no such studies have been conducted in Egypt **(Behiry et al., 2019).** There are previous researches no regarding the effect of preoperative preparation on knowledge and quality of life among patients undergoing endoscopic sinus surgery. Over more endoscopic sinus surgery is an important surgical intervention need preoperative preparation which reflect on patient knowledge and quality of life

2.2. Aim of the Study

to evaluate the impact of preoperative education on the knowledge and quality of life of patients undergoing endoscopic sinus surgery.

2.3. Research Hypotheses

In order to accomplish the study's goal, the following research hypotheses were developed:

1. The knowledge level of the study group will be greater than that of the control group.
2. The study group will have a higher standard of living than the control group.

3. Method

3.1. Research Design

This study employed a quasi-experimental pretest/posttest design.

3.2. Setting

This study was carried out at Otolaryngology department at Mansoura university hospital.

3.3. Subjects

Endoscopic sinus surgery was performed on 64 individuals with chronic rhinosinusitis, whether or not they had nasal polyps. Based on the following criteria, the patients were divided into two equal groups: the study group (number 32), which got preoperative education from the researcher, and the control group (number 32), which received hospital care:

3.4. Inclusion Criteria

1. Adult patients of both sexes beginning at age 20.
2. Nasal polyps or chronic rhinosinusitis are present in the patients.
3. The patients will consent to take part in the research.

3.5. Exclusion Criteria

1. Patients with psychological disorders.
2. Patients with malignant tumors.

3.6. Study Sample Calculation

The sample size can be calculated using the following method with a power of 80% and a level of significance of 5% based on data from the **literature (Jin, Sun, & Jiang, 2021).** ($Z\alpha/2 + Z\beta)^2 \times p\ (1-p))/((d)^2) = n$, where d is the expected difference in the proportion of occurrences, p is the proportion, and $Z\alpha/2 = 1.96$ (at the 5% level of significance) and $Z\beta = 0.84$ (at the 80% power of study) reflect the pooled proportion from the previous study. Consequently, N = (2(1.96 + 0.84) 2 ×(0.108) (1-0.108))/((0.22)^2) = 31.2. Consequently, each group requires 32 samples.

3.7. Tools for Data Collection Three tools were as follow:

Tool I: A structured interviewing questionnaire: Following a survey of relevant literature, the researcher created those tools, which are divided into two sections **(Hamed & Ibrahim, 2023; Farghaly & Ramadan, 2022; Mandal & Sharma, 2019; Soler & Smith, 2010).**

Part I: Demographic and medical data sheet: This section dealt with the patients' personal information, which included their age, gender, marital status, place of residence, degree of education, employment, and smoking habits. Patient's present medical history which included patient present history such as complain, current symptoms, prescribed treatment, experienced complications and times of nasal wash. Past medical history which included chronic diseases, previous hospitalization and family history for chronic rhinosinusitis.

Part II: Knowledge Assessment Sheet: Patients' knowledge of rhinosinusitis (17 items), endoscopic sinus surgery (10 items), preoperative

preparation (6 items), and postoperative treatment (21) was evaluated in this section.

Scoring System

- The responses were evaluated using the researcher's model key answer; a correct response received a score of (1), while an incorrect, missing, or unknown response received a score of (0). Each question's score was added together to determine the patient's overall knowledge score about chronic rhinosinusitis. The distribution of expertise levels was as follows:
- Poor: Less than 50%
- Average : From 50% to 75%
- GoodMore than 75%

Tool II: Sinonasal outcomes test-22 (SNOT-22):

This tool was translated into Arabic by **Asiri & Alokby (2019)** and originated from **Piccirillo et al. (1995).** It was employed to measure the severity of symptoms and the health-related quality of life (QoL). It covers a broad range of health-related problems, including psychological impacts, functional limitations, and physical problems, that have an impact on people's quality of life. It was divided into four categories: sleep function (items 13–16), ear and facial symptoms (items 8–11), psychological symptoms (items 17–22), and rhinological symptoms (items 1–7, 12).

Scoring System:

Each of the 22 statements in this tool is evaluated using a 5-point Likert scale as follows: Zero means there is no problem, one means it is very mild, two means it is mild or slight, three means it is moderate, four means it is severe, and five means it is as bad as it can get. Range of scores (0–110): A lower quality of life is indicated by a higher score.

Levels

- Mild if score (1- 54 points)
- Moderate if score (55- 76 points)
- Severe if score (77- 110 points)

Tool III: Self- rating anxiety scale (SAS):

The researcher translated this Arabic technique, which she took from **Zung (1971),** into Arabic in order to evaluate patients' anxiety levels. The 20 items on this scale were scored according to four categories of manifestations: symptoms related to the motor, central nervous system, autonomic, and cognitive systems. Based on the following responses, A Likert-type scale is used to provide a score to each question. of 1-4: "1=a little of the time," "2=some of the time," "3=good part of the time," and "4=most of the time."

Scoring System Levels

Normal level is 20–44 points; mild to moderate is 45–59 points; and marked to severe is 60–74 points. 75 points or more are considered extreme. **Validity of tools:** A panel of five specialists from the nursing faculty evaluated the suggested tools' content validity and made the necessary adjustments.

Reliability: The reliability of the study tools was evaluated using the Cronbach's alpha coefficient test; the alpha coefficients for Tool I, Part 2 (Patient Knowledge Assessment) and Tool III (Self-rating anxiety scale) were 0.903 and 0.870, respectively.

Pilot study: It was carried out on 10% (6 patients) of the study population to ensure that the study instruments were practical, objective, applicable, transparent, and internally consistent. The main study sample did not include participants from the pilot study.

Data collection process: Data was gathered over a six-month period, from August 1, 2022, to February 1, 2023. **Fieldwork:** The framework for this investigation was implemented in three stages:

A) Assessment phase.

- Patients who met the inclusion criteria and consented to participate in the trial were added during this phase. Before and after the endoscopic sinus surgery, the researcher used the study instruments to conduct individual interviews with each patient in order to gather the required data.
- The demographic characteristics and assess patients' knowledge about endoscopic sinus surgery preoperative and postoperative care was assessed using tool 1 as a pretest before implementation sessions.
- The researcher was present all the time while the patients fill the questionnaire sheet and notified them that answering the questionnaire at previously mentioned setting 4-5 days per week at morning shift until all participants were interviewed.

B) Implementation phase.

- The study group program began during this period, and each member got customized training sessions. Also, it was involved practical part about nasal lavage. It was given in form of three sessions each session will take between 30 – 60 minutes.

- The researcher spoke to the patients in plain, understandable English during these sessions.
- Various approaches of teaching methods were used by the researcher to carry out the program such as interactive lecture, questionnaire, demonstration, and brain storming. Diverse teaching media was used, PowerPoint presentation, videos and colored pictures. Also, the illustrated booklet will be distributed to all participants in the study group to enhance the process of learning.
- A pamphlet with instructions for following was given to each patient. Patients were invited to ask questions after each session ended with a quick recap that focused on the key elements.
- Regarding Control Group: Nursing care was provided to the patients as usual both before and after surgery.

- C) Evaluation phase.

To find out how preoperative preparation affected patients' knowledge and quality of life during endoscopic sinus surgery, study and control groups were assessed one month following the initial appointment. Two months later, a follow-up evaluation was also carried out.

3.8 Ethical Considerations

It required obtaining the Mansoura University Faculty of Nursing Committee's approval to conduct the study which provided at 24 April 2022, obtaining each participant's written informed consent after thoroughly describing the purpose of the study, and safeguarding the participants' privacy and confidentiality throughout the data collection process. Additionally, they were given the option to participate in the study voluntarily, as they are free to decline or withdraw at any time. Confidentiality, privacy, safety, and anonymity were ensured during the entire study.

3.9 Statistical Analysis

All statistical analyses were conducted using SPSS for Windows version 20.0 (SPSS, Chicago, IL). The continuous data had a normal distribution and were shown as mean ± standard deviation (SD). Categorical data were expressed using numbers and percentages. The one-way analysis of variance (ANOVA) test was used to compare more than two variables for variables with continuous data. Variables related to categorical data were compared using the chi-square test. The correlation coefficient test was used to look at correlations between two variables with continuous data. The study's questionnaires' reliability (internal consistency) test was calculated. Statistical significance was established at $p<0.05$.

Results

With mean ages of 37.3 ± 6.02 and 36.5 ± 5.99, respectively, 75.0% of the study group and 62.5% of the control group were male, according to **Table 1**. Additionally, 75.0% of the study group and 62.5% of the control group were employed, and 68.8% of the study group and 75.0% of the control group had completed secondary school. Additionally, almost three-quarters of the study and control groups were married (81.3% and 78.2%, respectively). Additionally, over half of the research and control groups—65.6% and 56.3%, respectively—live in cities. In addition, 81.3% of the control group and 75.0% of the study group did not smoke. Similarly, all demographic data showed no statistically significant differences between the two groups ($p >0.05$).

According to **Table 2**, the most prevalent symptom reported by 87.5% of the study group and 78.1% of the control group was nasal obstruction or congestion, while 71.9% of the study group and 62.5% of the control group experienced symptoms that lasted longer than 12 weeks. Furthermore, 75.0% of the study group and 68.8% of the control group use antibiotics, and 50.0% of the study group and 56.3% of the control group experienced issues related to chronic rhinosinusitis. Additionally, 78.1% of the control group and 68.8% of the research group do not wash their noses. In terms of prior medical history, 62.5% of the control group and 71.9% of the study group are free of chronic illnesses or other issues. Additionally, the vast majority of both the research and control groups (90.6%) have never had surgery. Similarly, there were no differences in either of the two groups' medical histories at $p >0.05$.

According to **Figure (1)**, 6.2% of the study group had a good level of overall knowledge prior to the intervention, which rose to the majority (84.4%) during the post-intervention phase and to 78.1 percent after more than three quarters of the preoperative preparation was put into practice. However, during the pre-intervention phase, 78.1% of the control group had a low level of overall knowledge. but increased to 71.9% during the post-intervention period and 78.1% during the follow-up period after routine care was put into place.

Figure (2) displays that only (12.5%) of the study group had mild level of total symptoms' severity and health related quality of life at pre-intervention phase which improved to more than two thirds (68.8%) at post-intervention phase and

the vast majority (90.6%) at follow-up of the implementation of preoperative preparation. In contrast, 9.4% of the control group had mild levels of overall symptoms and quality of life in relation to health prior to the intervention, a percentage that rose to 12.5% during the post-intervention phase and 65.3% during the follow-up period when routine care was implemented.

Just 9.4% of the study group had a normal level of anxiety at the pre-intervention period, compared to less than two thirds (62.5%) at the post-intervention phase and the majority (93.7%) at the follow-up phase, as demonstrated in **Figure (3).** At the pre-intervention and post-intervention phases, respectively, over half (53.1%) of the control group experienced marked to severe anxiety, whereas half (50.0%) reported normal anxiety at the follow-up period.

Table 3 showed that, among the study group in the pre, post, and follow-up of the implementation of preoperative preparation, there was a strong statistically significant negative link between patients' knowledge and the intensity of their symptoms, health-related quality of life, and anxiety state ($P < 0.001$). Pre-, post-, and follow-up data on the research group's anxiety state, health-related quality of life, and the intensity of patients' symptoms all showed a strong statistically significant positive link ($P < 0.001$).

Table (1). Comparison Based on Demographic Data Between the Study and Control Groups.

Items	Study group (n=32)		Control group (n=32)		X^2	P-Value
	No	%	No	%		
Gender						
Male	**24**	**75.0**	**20**	**62.5**	1.211	0.293
Female	8	25.0	12	37.5		
Age						
20 - 30 years	4	12.5	3	9.4		
31 - 40 years	16	50.0	17	53.1	1.096	0.457
41 - 50 years	8	25.0	**7**	21.9		
51 - 60 years	4	12.5	5	15.6		
Mean ± S.D	**37.3 ± 6.02**		**36.5 ± 5.99**		T= 0.831	0.416
Education level						
Illiterate	0	0.0	0	0.0		
Primary	4	12.5	5	15.6	0.955	0.463
Secondary	**22**	**68.8**	**24**	**75.0**		
University	6	18.7	3	9.4		
Occupation						
Work	**24**	**75.0**	**20**	**62.5**	1.218	0.304
Not work	8	25.0	12	37.5		
Marital status						
Single	4	12.5	5	15.6	1.000	0.301
Married	**26**	**81.3**	**25**	**78.2**		
Divorced	0	0.0	1	3.1		
Widowed	2	6.2	1	3.1		
Residence						
Rural	11	34.4	14	43.7	1.210	0.295
Urban	**21**	**65.6**	**18**	**56.3**		
Smoking						
Smoker	8	25.0	6	18.7	0.850	0.505
Non smoker	**24**	**75.0**	**26**	**81.3**		

Table (2). Comparison Between the Study and Control Groups According to their Medical History.

Items	Study group (n=32)		Control group (n=32)		X^2	P-Value
	No	%	No	%		
Present history						
***Current symptoms**					1.211	0.189
Nasal obstruction or congestion	**28**	**87.5**	**25**	**78.1**		
Facial and nasal pain	7	21.9	9	28.1		
Decreased or loss of smell	10	31.3	12	37.5		
Runny nose	9	28.1	11	34.4		

Onset of symptoms of chronic sinusitis						
Less than 12 weeks	9	28.1	12	37.5	1.095	0.361
More than 12 weeks	**23**	**71.9**	**20**	**62.5**		
***The treatment prescribed**						
Antibiotics	**24**	**75.0**	**22**	**68.8**	1.088	0.365
Steroids drugs	12	37.5	14	43.8		
Surgical treatment	8	25.0	10	31.3		
Follow up only	2	6.3	2	6.3		
Complications of chronic rhinosinusitis						
Yes	**16**	**50.0**	**18**	**56.3**	1.055	0.183
No	16	50.0	14	43.7		
If yes, what type of complications?	**(n=16)**		**(n=18)**		0.615	0.910
Loss of sense of smell	10	62.5	12	66.7		
Serious skin infection	6	37.5	6	33.3		
Regularly doing nasal wash						
Yes	10	31.2	7	21.9	0.975	0.473
No	**22**	**68.8**	**25**	**78.1**		
If yes, how many times per day?	**(n=10)**		**(n=7)**		0.914	0.480
1-3	8	80.0	6	85.7		
4-6	2	20.0	1	14.3		
Past medical history						
Chronic diseases or other problems						
Yes	9	28.1	12	37.5	1.008	0.275
No	**23**	**71.9**	**20**	**62.5**		
***If the answer is yes, what is it?**	**(n=9)**		**(n=12)**		1.710	0.172
Hypertension	6	66.7	7	58.3		
Diabetes mellitus	3	33.3	5	41.7		
Heart diseases	2	22.2	3	25.0		
Respiratory diseases	4	44.4	2	16.7		
Previous surgery						
Yes	3	9.4	3	9.4	0	0
No	**29**	**90.6**	**29**	**90.6**		
Family history						
Family from chronic rhinosinusitis						
Yes	5	15.6	2	6.2	1.305	0.141
No	**27**	**84.4**	**30**	**93.8**		

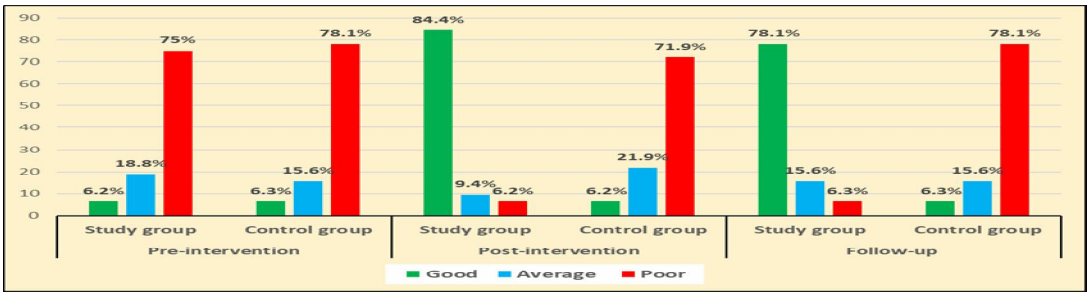

Figure 1. Study Participants' Knowledge Regarding Pre and Postoperative Care Through all Study Phases.

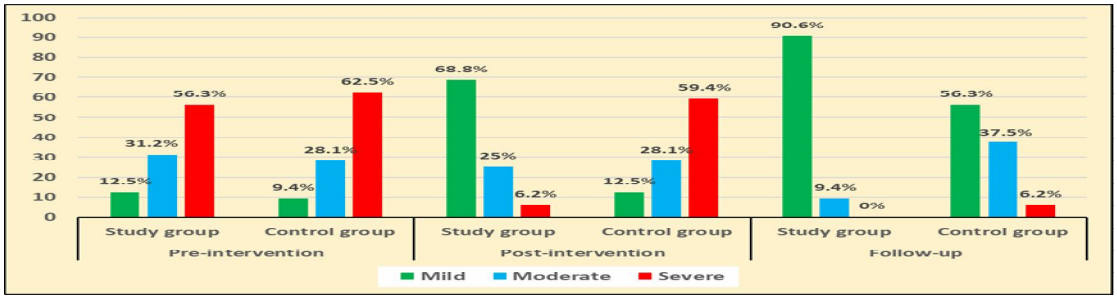

Figure (2). Distribution of the Study and Control Groups as a Function of Overall Symptom Intensity and Health-Related Quality of life During the Duration of the Study Periods.

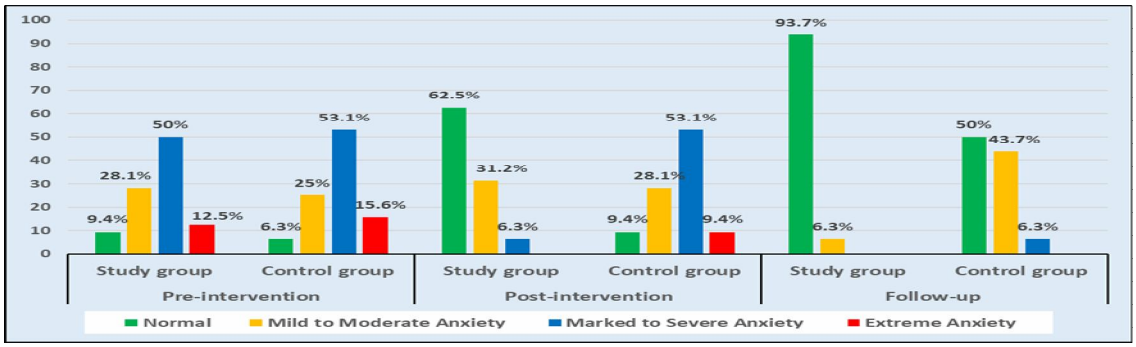

Figure 3. Distribution of the Study and Control Groups According to Their General Anxiety levels During the Study Periods.

Table 3. Correlation Between Total Patients' Knowledge, Symptoms Severity and Health Related Quality of Life and Anxiety State Among the Study Group at Pre- and Post-Intervention (n=32

Variables	Total knowledge						Total symptoms severity and health related quality of life					
	Pre		Post		Follow-up		Pre		Post		Follow-up	
	r	P- value	r	P-value	r	P-value	r	P-value	r	P-value	r	P-value
Total knowledge							-0.515	0.000**	-0.581	0.000**	-0.624	0.000**
Total anxiety state	-0.502	0.000**	-0.563	0.000**	-0.636	0.000**	0.505	0.000**	0.552	0.000**	0.651	0.000**

= Correlation coefficients test. **Highly significant Correlation at p ‹ 0.001.

Discussion

One of the most frequent chronic illnesses for which people seek medical care is chronic rhinosinusitis. Patients with refractory condition require surgical management, such as endoscopic sinus surgery (ESS), in addition to intensive medication therapy. **(Kwon & O'Rourke, 2023).** Preoperative preparations for patients undergoing ESS are one of the most important aspects of care. It is important for improving patient knowledge regarding reliving of pain, improve quality of sleep, reduce symptoms of anxiety, and improve quality of life **(Pan et al., 2023).** Thus, the goal of this research is to assess how preoperative education affects patients' quality of life and knowledge when they undergo endoscopic sinus surgery.

Regarding the overall knowledge of preoperative preparation between the study and control groups, the current study demonstrated a highly significant improvement in total knowledge with a highly statistically significant difference among the study group following the implementation of preoperative preparation. As proof, only fewer than one tenth of the study group had good level of overall knowledge at pre-intervention phase which improved to the majority at post-intervention phase and more than three quarters at follow-up phase. Additionally, there was no discernible difference in the study group's overall knowledge during the pre-intervention phase compared to the control group. Furthermore, at the post- and follow-up periods, there was a highly significant difference in the overall knowledge of the study and control groups.

The findings of the present study were in agreement with those of **Hwang, Nayak, and Wang (2021)**, who examined "Postoperative Care Instructions for Endoscopic Sinus Surgery." Stanford university school of medicine department of otolaryngology - head & neck surgery" and found that the patient's active compliance with postoperative instructions was essential to the sinus surgery's success and improved the surgical results. In order to preserve respiratory function following functional endoscopic sinus surgeries, early nursing instructions are essential. It also helps to avoid complications from surgery.

Turkdogan et al. (2022) corroborated this finding, stating that patients' knowledge significantly improved following education. They came to the conclusion that patient education provides supplemental information on treatment plans, the recovery process, and additional services. Regarding this matter, a study conducted by **Farghaly & Ramadan, (2022)** found that while the study group's postoperative knowledge was rather high, that of the control group was notably lower. This led to the discovery of a statistically significant difference between the groups.

In a similar vein, the results of the present study aligned with those of **Tom & Phang (2022)**, who investigated the "Effectiveness of the video medium to supplement preoperative patient education" and discovered that patients' knowledge outcomes

significantly improved after watching an educational video. They also noted that providing patients with additional education has a lot of potential in a preoperative setting. From the research investigator point of view, good level of knowledge about preoperative preparation and among the study group may be attributed to the instructions, which allowed patients to read and ask questions during the follow-up sessions after being provided them early in the pre-operative period.

The current study's findings demonstrated that, following the application of preoperative preparation, there was a highly statistically significant difference in the study group's overall symptoms' severity and health-related quality of life. As proof, consider the fact that at the pre-intervention phase, over 10% of the study group had mild levels of overall symptom severity and health-related quality of life; at the post-intervention phase, this number rose to over two thirds, and the majority of them at the follow-up after the preoperative preparation was implemented. Additionally, during the pre-intervention phase, there was no discernible difference between the study and control groups. Furthermore, in the postoperative and follow-up periods following the application of preoperative preparation, there was a highly significant difference between the study and control groups with regard to the overall intensity of symptoms and health-related quality of life.

The researcher believed that this improvement was caused by the impact of nursing education sessions on improving the participants' health-related quality of life and the severity of their symptoms, as well as the patients' use of nursing instruction as reported during the follow-up period. This outcome was consistent with **Wu et al., (2019)** study, "Improved perioperative quality of life in endoscopic sinus surgery by application of enhanced recovery after surgery," which found that the quality of life scores of the patients were statistically significantly higher following the program's implementation than they were prior to it.

The study "Interventions to improve quality of life (QOL) and/or mood in patients

with head and neck cancer" by **Senchak, Fang, and Bauman (2019)** found that the patients' quality of life and symptom severity considerably improved after the intervention. This outcome was also consistent with the findings of **Han et al. (2018),** who looked into the "Effects of health education intervention on negative emotion and quality of life of patients with laryngeal cancer after postoperative radiotherapy" and discovered that health education sessions can significantly improve patients' quality of life and reduce issues related to negative emotion.

Bozec et al. (2019) conducted a study titled "Evaluation of the information given to patients undergoing total pharyngolaryngectomy and quality of life" and found that the participants' quality of life significantly improved following the intervention, supporting this finding in the same context. In addition, the results of the study were consistent with those of **Jin, Sun, and Jiang (2021),** who looked into the "Influence of a systematic nursing mode on the quality of life and pain of patients with chronic sinusitis and nasal polyps after endoscopic sinus surgery" and found that the observation group's quality of life and symptom severity were significantly better than those of the control group. The current study discovered that, when compared to the control group during the study periods, the study group's anxiety level significantly decreased after preoperative preparation was implemented, with a highly statistically significant difference. According to the statistics, less than 10% of the study group experienced normal anxiety levels prior to the intervention. During the post-intervention period, this improved to fewer than two thirds, and during the follow-up phase, it increased to the majority. Furthermore, the study group's total anxiety level during the pre-intervention phase did not significantly differ from that of the control group. Furthermore, the study and control groups' total anxiety levels differed significantly in the post- and follow-up implementation phases.

Furthermore, the study group's total anxiety level during the pre-intervention phase did not significantly differ from that of the control group. Furthermore, the study and control groups' total anxiety levels differed significantly in the post- and follow-up implementation phases. Parallel to this, **Topan, Mucuk, and Yontar's (2022)** study "The Effect of Patient Education Prior to Rhinoplasty Surgery on Anxiety, Pain, and Satisfaction Levels" found that after patient education, the experimental group's mean anxiety score was significantly lower than the control groups.

This result also aligned with the findings of **Toğaç & Yılmaz (2021),** who studied the "Effects of preoperative individualized audiovisual education on anxiety and comfort in patients undergoing laparoscopic cholecystectomy" and found that the intervention group's anxiety levels were lower than the control group's before and after surgery.

Furthermore, this study's findings were consistent with those of **Aydal, Uslu, and Ulus (2023)**, who investigated "The effect of preoperative nursing visit on anxiety and pain level of patients after surgery" and discovered that, following instruction, the experimental group's anxiety score dropped more than that of the control group.

According to the study group, there was a strong statistically significant positive correlation between the study group's anxiety state, health-related quality of life, and symptom severity before, during, and after the implementation of preoperative preparation, and a strong statistically negative relationship between the study group's knowledge and the severity of their symptoms, health-related quality of life, and anxiety level. This can be interpreted as the studied patients who have high level of knowledge regarding Endoscopic Sinus Surgery are more likely to have low scores in symptoms severity, health related quality of life, while patients who have high level of anxiety regarding Endoscopic Sinus Surgery are more likely to have high scores in symptoms severity and health related quality of life.

This result was consistent with a study by **Senchak, Fang, and Bauman (2019),** which highlighted the importance of education as a key element of many interventions, stressing the value of patients' comprehension of their condition and course of treatment and the positive effects that increased knowledge and comprehension can have on anxiety and/or quality of life. According to **Aydal, Uslu, and Ulus (2023),** preoperative patient education that includes relevant resources and sufficient interdisciplinary teamwork regularly increases the patient's adherence to the surgical procedure and positively affects the healing process. Before surgery, patient education reduces anxiety and hastens healing. According to a study by **Çengel & Andsoy (2022)** on "The effect of an operating room nurse visit on surgical patient anxiety," worry has a direct impact on patients' quality of life by intensifying pain and symptoms. This conclusion was in line with their findings. Previous nurse education may reduce postoperative complications and anxiety in surgical patients. Additionally, a study by **Yang et al. (2022)** discovered that patients' knowledge has an impact on their anxiety symptoms, postoperative pain, and the rate of complications. It also affects the patients' quality of life and sleep.

6. Conclusion

The results of this study demonstrate that preoperative planning is essential to the overall result and well-being of patients having endoscopic sinus surgery. When patients underwent endoscopic sinus surgery, preoperative preparation improved their understanding, the severity of their symptoms, and their health-related quality of life. It also helped them feel less anxious.

Recommendation

- The patient education brochure for endoscopic sinus surgery should be available at the Mansoura University Hospital's Otolaryngology department as part of the patient education program.
- Designing an educational program for nurses about care of patients undergoing endoscopic sinus surgery to educate patients about the procedure, expected outcomes, potential risks, and postoperative care.

References

Asiri, M., &Alokby, G. (2019). Validation and cross-cultural adaptation of the sinonasal outcome test (SNOT)-22 for the arabian patient population. Cureus, 11(4).

Aydal, P., Uslu, Y., & Ulus, B. (2023). The effect of preoperative nursing visit on anxiety and pain level of patients after surgery. Journal of PeriAnesthesia Nursing, 38(1), 96-101.

Behiry, E. A., Elshazly, H. M., Abdel-Shafy, I. A., & Adel Hussein, H. (2019). Evaluation of quality of life after Functional Endoscopic Sinus Surgery (FESS) in chronic rhinosinusitis patients in Menoufia Governorate. Egyptian Journal of Ear, Nose, Throat and Allied Sciences, 20(3), 131-136.

Çengel, K., & Andsoy, I. I. (2022). The effect of an operating room nurse visit on surgical patient anxiety. Journal of PeriAnesthesia Nursing, 37(1), 80-85.

Farghaly, S., M., & Ramadan, M., E. (2022). Effect of Post-Operative Nursing Instruction on Patient Outcomes undergoing Endoscopic Sinus Surgery. Egyptian Journal of Health Care, 2022 EJHC Vol 13. No.4

Hamed, S. M., & Ibrahim, R. A. (2023). Systematic nursing strategy for chronic rhinosinusitis patients with polyps undergoing endoscopic sinus surgery and its effect on their. Egyptian Journal of Nursing and Health Sciences, 4(3), 225-249.

Homood, M. A., Alkhayrat, S. M., Kulaybi, K. M., Mohajer, A. A., Majrashi, A. S., Salawi, A. A., ... &Khawaji, N. K. (2017). Prevalence and Risk Factors of Chronic Sinusitis among People in JazanRegion'KSA. The Egyptian Journal of Hospital Medicine, 69(5), 2463-2468.

Hwang P, Nayak J, & Wang J (2021). Endoscopic Sinus Surgery Postoperative Care Instructions. Stanford university school of medicine department of otolaryngology – head & neck surgery. Available at: https://med.stanford.edu.

Jin, X., Sun, H., & Jiang, W. (2021). Influence of a systematic nursing mode on the quality of life and pain of patients with chronic sinusitis and nasal polyps after endoscopic sinus surgery. American Journal of Translational Research, 13(8), 9451.

Kwon E & O'Rourke MC. (2023). Chronic Sinusitis. [Updated 2023 Aug 8]. In: StatPearls [Internet].Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from:https://www.ncbi. nlm.nih.gov/books/NBK441934/.

Mandal, S., & Sharma, A. (2019). Effect on Quality Of Life of Patients Before and After Functional Endoscopic Sinus Surgery. Indian journal of otolaryngology and head and neck surgery:official publication of the Association of Otolaryngologists of India, 71(Suppl 3), 2065–2071. https://doi.org/10.1007/s12070-018-1471-8

Mullol, J., Azar, A., Buchheit, K. M., Hopkins, C., & Bernstein, J. A. (2022). Chronic rhinosinusitis with nasal polyps: quality of life in the biologics era. The Journal of Allergy and Clinical Immunology: In Practice, 10(6), 1434-1453.

Pan, J., Liu, X., Chen, D., Zhao, W., Tao, J., & Wu, S. (2023). Effect of refined management on the recovery of patients undergoing sinusitis surgery via nasal endoscopy. AmericanJournalof Translational Research, 15(1), 522.

Piccirillo, J. F., Edwards, D., Haiduk, A., Yonan, C., & Thawley, S. E. (1995). Psychometric and clinimetric validity of the 31-item rhinosinusitis outcome measure (RSOM-31). American journal of rhinology, 9(6), 297-308.

Roxbury, C. R., Li, L., Rhee, D., Jatana, K. R., Shah, R. K., & Boss, E. F. (2017). Safety and perioperative adverse events in pediatric endoscopic sinus surgery: 17n ACS NSQIP P analysis. In International Forum of Allergy & Rhinology (Vol. 7, No. 8, pp. 827-836)

Rudmik, L., Soler, Z. M., Mace, J. C., DeConde, A. S., Schlosser, R. J., & Smith, T. L. (2015). Using preoperative SNOT- 22 score to inform patient decision for endoscopic sinus surgery. The Laryngoscope, 125(7), 1517-1522.

Senchak, J. J., Fang, C. Y., & Bauman, J. R. (2019). Interventions to improve quality of life (QOL) and/or mood in patients with head and neck cancer (HNC): A review of the evidence. Cancers of the head & neck, 4(1), 1-11.

Siboni, F. S., Alimoradi, Z., Atashi, V., Alipour, M., &Khatooni, M. (2019). Quality of life in different chronic diseases and its related factors. International Journal of Preventive Medicine, 10 (65), 1-18.

Soler, Z. M., & Smith, T. L. (2010). Quality of life outcomes after functional endoscopic sinus surgery. Otolaryngologic clinics of North America, 43(3), 605–x. https://doi.org/10.1016/j.otc.2010.03.001

Thomas S., & Sugirtha V. (2021). Effectiveness of Structured Teaching Programme on Knowledge and Anxiety of Patients Undergoing Endoscopy at a Gastroenterology Centre of a Tertiary Care Hospital. International Journal of Science and Research (IJSR) 4 (6): 2319-7064. Available at: www.ijsr.net.

Tom, K., & Phang, P. T. (2022). Effectiveness of the video medium to supplement preoperative patient education: A systematic review of the literature. Patient Education and Counseling, 105(7), 1878-1887.

Turkdogan, S., Roy, C. F., Chartier, G., Payne, R., Mlynarek, A., Forest, V. I., & Hier, M. (2022). Effect of perioperative patient education via animated videos in patients undergoing head and neck surgery: A randomized clinical trial. JAMA Otolaryngology–Head&Neck urgery, 148(2), 173-179.

Wu, X., Kong, W., Zhu, Q., Wang, W., Xu, H., Zhou, S., & Yang, Q. (2019). Improved perioperative quality of life in endoscopic sinus surgery by application of enhanced recovery after surgery. Therapeutics and Clinical Risk Management, 683-688.

Yang, K., Shao, X., Lv, X., Yang, F., Shen, Q., Fang, J., & Chen, W. (2022). Perioperative psychological issues and nursing care among patients undergoing minimally invasive surgeries. Laparoscopic, Endoscopic and Robotic Surgery, 5(3), 92-99.

Zung, W. W. (1971). A rating instrument for anxiety disorders. Psychosomatics: Journal of Consultation and Liaison Psychiatry. Accessed by https: //doi .org/1 0.1016/ S0033-3182(71)71479-0