



Retrospective Study

Effect of nursing intervention on rehabilitation of patients with chronic sinusitis and nasal polyps after nasal endoscopy

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Specialty type: Medicine, research and experimental

Provenance and peer review:

Unsolicited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's classification

Scientific Quality: Grade C

Novelty: Grade C

Creativity or Innovation: Grade B

Scientific Significance: Grade B

P-Reviewer: Watanabe A, Japan

Received: March 14, 2024

Revised: April 30, 2024

Accepted: May 20, 2024

Published online: July 6, 2024

Processing time: 106 Days and 2.5 Hours



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Abstract

BACKGROUND

Chronic sinusitis is a kind of chronic suppurative inflammation of the sinus mucosa. Nasal endoscopy is a good method to treat nasal polyps. However post-operative rehabilitation and care should not be neglected.

AIM

To investigate the Effect of nursing intervention on the rehabilitation of patients with chronic sinusitis and nasal polyps (CSNPS) after nasal endoscopy.

METHODS

A total of 129 patients with CSNPS hospitalized from February 2017 to February 2019 were studied. Using the digital parity method, we investigated nursing cooperation strategies for endoscopic surgery. The comparison group (64 cases): Surgical nursing was carried out with traditional nursing measures; experimental group (65 cases): Surgical nursing was carried out by traditional nursing counter-measures + comprehensive nursing measures. We compared postoperative recovery rates, nursing satisfaction rates, and nasal cavity ratings between the two groups.

RESULTS

Experimental group patients with CSNPS had a significantly higher recovery rate (98.46%) compared to the control group (79.69%). This difference was statistically significant ($\chi^2 = 11.748, P < 0.05$). Additionally, the satisfaction rate with treatment was also significantly higher in the experimental group (98.46%) compared to the control group (79.69%), with a statistically significant difference ($\chi^2 = 11.748, P < 0.05$). Before nursing, there was no significant difference in sinus nasal cavity scores between the experimental group (20.29 ± 7.25 points) and the control group (20.30 ± 7.27 points) ($t = 0.008, P > 0.05$). However, after nursing, the sinus nasal

cavity score in the experimental group (8.85 ± 3.22 points) was significantly lower than that in the control group (14.99 ± 5.02 points) ($t = 8.282, P < 0.05$).

CONCLUSION

Comprehensive nursing intervention in patients with CSNPS can significantly improve the total recovery rate after endoscopic surgery.

Key Words: Chronic sinusitis; Nasal polyps; Endoscopic surgery; Comprehensive nursing; Clinical effect

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Core Tip: In this study, we studied the nursing effect of endoscopic surgery in patients with nasal polyps and sinusitis. A total of 129 patients in our hospital were selected and divided into two groups. The control group was given routine nursing and the experimental group was given comprehensive nursing based on routine nursing. The results showed that the experimental group's postoperative recovery rate, nursing satisfaction, and nasal test score were better than the control group.

Citation: Xu H, Pan M, Zhu L. Effect of nursing intervention on rehabilitation of patients with chronic sinusitis and nasal polyps after nasal endoscopy. *World J Clin Cases* 2024; 12(19): 3785-3790

URL: <https://www.wjgnet.com/2307-8960/full/v12/i19/3785.htm>

DOI: <https://dx.doi.org/10.12998/wjcc.v12.i19.3785>

INTRODUCTION

The term chronic sinusitis refers to a persistent inflammatory condition that affects the mucous membrane lining of the sinuses. Recurrent inflammation triggers swelling in the sinus mucosa, thereby leading to the development of nasal polyps[1]. The etiology of sinusitis is complex and closely related to factors such as infection, allergy, and personal hygiene[2]. In recent years, the incidence of chronic sinusitis and nasal polyps (CSNPS) has shown a significant upward trend, and the prevalence rate is more than 15%[3]. In the early stages of the disease, there may be mild clinical symptoms such as nasal congestion, smell disturbance, and headache, which are not easily noticed by the patient. The disease's progression can lead to otitis media, loss of smell, vision changes, and other conditions with a high recurrence rate, significantly impacting patients' quality of life[4]. The precise elimination of lesions, preservation of healthy tissue, and improvement of nasal and sinus ventilation are effectively achieved by the minimally invasive endoscopic sinus surgery in the management of CSNPS[5]. However, nasal fillers need to be applied after surgery, which causes pain for patients and leads to negative emotions such as anxiety, fear, and loss of normalcy. The presence of these psychological stresses may heighten the patient's perception of pain and exert an impact on their prognosis. Relieving or reducing postoperative pain and anxiety, and promoting patients' quality of life and prognosis has become the focus of postoperative care[6]. The term "systematic nursing intervention" encompasses a range of proactive nursing actions implemented within the framework of the nursing process[7]. The technology focuses on monitoring vital signs, providing psychological counseling, implementing sleep intervention, and offering rehabilitation exercise guidance to optimize disease treatment outcomes and enhance the overall quality of life[8].

In the early stage, conservative drug therapy is usually selected to complete the disease treatment. If the desired effect is still not achieved, nasal endoscopic surgery should be selected to carry out the disease treatment. It can also effectively restore the patient's ventilation function and nasal drainage. However, achieving the results will have a corresponding impact on the normal physiological function of the patient's sinuses and nasal passages, which also needs to adopt effective and feasible nursing methods to cooperate. This study conveniently selected 129 patients with CSNPS admitted to the hospital from February 2017 to February 2019 as experimental subjects; To explore the application feasibility of comprehensive nursing intervention for patients with CSNPS, to improve the rehabilitation status of patients after nasal endoscopic surgery and lay a foundation.

MATERIALS AND METHODS

General information

129 patients with CSNPS were selected as experimental subjects. The winter period nursing coordination strategy of nasal endoscopy was explored after digital parity grouping. Comparison group (64 cases): 49 males and 15 females; The age ranged from 29 to 79 years, with an average age of 52.25 ± 12.39 years. The average course of the disease was 6.25 ± 1.39 years, ranging from 4 to 8 years. Experimental group (65 cases): 52 males and 13 females; Their ages ranged from 31 to 81 years, with an average age of 52.39 ± 12.42 years. The course of disease ranged from 5 to 9 years, and the mean course of disease was 6.29 ± 1.17 years. This study was approved by the Ethics Committee, and the patients and their families

signed the informed consent; The gender, age, and course of the two groups of patients with CSNPS were observed and compared, and the results were not statistically significant ($P > 0.05$).

Research method

The patients with chronic rhin-osisinusitis and nasal polyps admitted were grouped and prepared for nursing. Compared with the group, the nursing staff actively completed a series of preoperative preparations for patients with chronic rhinosinusitis and nasal polyps, and did a good job of basic status observation and evaluation. The specific methods of the experimental group are as follows.

Nasal nursing intervention was performed on patients: After the operation, patients with chronic rhinosinusitis and nasal polyps were assisted to take half lying and half sitting position. After the completion of the operation, the head of the bed was raised at a reasonable Angle to significantly reduce the nasal airflow stimulation of patients; In addition, to prevent patients from showing the phenomenon of broken blood vessels in the nasal cavity, they need to be instructed on the correct way to cough and sneeze. Two days after the operation, the traditional Chinese medicine sponge was reasonably removed from the nasal cavity, and the blood scab and blood accumulation in the nasal cavity were effectively vacuumed with a straw. After completion, the nasal cavity was carefully rinsed with a washing agent (containing gentamicin, dexamethasone, and warm saline), with a control frequency of 1 time/day, to achieve a significant infection prevention effect.

Carry out dietary nursing interventions for patients: Prepare all kinds of vitamin and protein-rich foods for patients to make reasonable arrangements, for rough, harsh, irritating, and too-hot food prohibits patients from fasting.

Psychological nursing and cognitive nursing interventions were carried out for patients: To understand the educational level of patients with chronic rhinosinusitis and nasal polyps, and to select health education methods accordingly, the specific anesthesia methods, disease knowledge, coordination points, and surgical procedures are explained, to significantly improve the disease awareness and surgical awareness of patients with chronic rhinosinusitis and nasal polyps. In addition, in terms of emotional changes, close attention is paid to patients to ensure that abnormal performance of patients can be found in time, and corresponding intervention is carried out after inquiring about their needs and feelings, to significantly improve their psychological comfort.

Observation index

The total postoperative recovery rate, total satisfaction rate after nursing, and sinusoidal and nasal scores of patients with CSNPS were observed and compared between the two groups.

Judging standard

Clinical effect: An endoscopic nasal examination was performed on the patient, and it was found that the nasal sinus of the patient was open and did not show purulent secretion. **Effective:** Clinical endoscopic examination of the patient found that the patient still showed symptoms of sinus and nasal edema, showing less purulent discharge.

Ineffective: Clinical endoscopic examination of the patient found that the patient's nasal sinus mouth showed poor openness or was not open, combined with a lot of purulent secretion phenomenon. According to the sinusoidal and nasal conditions of patients with CSNPS in two groups, the results were inversely proportional to the sinusoidal and nasal conditions by using 20 outcomes. According to the nursing satisfaction of patients with CSNPS in the two groups, a special investigation was conducted by using self-designed questionnaires.

Statistical method

Statistical software SPSS 21.0 was used for data analysis. Measurement data were represented by (mean \pm SD) and *t*-test was performed. Counting data were represented by [*n* (%)] and the χ^2 test was performed, $P < 0.05$ was considered statistically significant.

RESULTS

Overall postoperative recovery rate

The total postoperative recovery rate of patients with CSNPS in the experimental group (98.46%) was higher than that in the comparison group (79.69%), and the difference was statistically significant ($\chi^2 = 11.748$, $P < 0.05$; Table 1).

Total satisfaction rate after nursing

The total satisfaction rate of patients with CSNPS after nursing in the experimental group (98.46%) was higher than that in the comparison group (79.69%), and the difference was statistically significant ($\chi^2 = 11.748$, $P < 0.05$; Table 2).

Results of sinus and nasal scores

Before nursing, there was no significant difference in the sinusoidal and nasal scores of patients with CSNPS in the experimental group compared with the comparison group ($t = 0.008$, $P > 0.05$); After nursing, the scores of patients with CSNPS in the experimental group were significantly lower than those in the comparison group, and the difference was

Table 1 Clinical comparison of postoperative recovery rate of patients with chronic sinusitis and nasal polyps between two groups, *n* (%)

Group	Cases	Excellect	Effective	Invalid	Total effective rate
Experimental group	65	53 (81.54)	11 (31.43)	1 (1.54)	64 (98.46)
Control group	64	38 (59.38)	13 (20.31)	13 (20.31)	51 (79.69)
χ^2 value					11.748
<i>P</i> value					0.001

Table 2 Clinical comparison of total satisfaction rate of patients with chronic sinusitis and nasal polyps after nursing between two groups, *n* (%)

Group	Cases	Great satisfaction	Basically satisfied	Dissatisfaction	Overall satisfaction
Experimental group	65	47 (72.31)	17 (26.15)	1 (1.54)	64 (98.46)
Control group	64	32 (50.00)	19 (29.69)	13 (20.31)	51 (79.69)
χ^2 value					11.748
<i>P</i> value					0.001

statistically significant ($t = 8.282, P < 0.05$; Table 3).

DISCUSSION

The primary clinical interventions for chronic sinusitis nasal polyps encompass conservative medical therapy, conventional surgical intervention, and minimally invasive endoscopic surgery. The efficacy of the initial two approaches is unsatisfactory, and the illness persists for a prolonged duration with recurring episodes, rendering it incapable of attaining the desired therapeutic outcome. Nasal endoscopic surgery offers the advantage of preventing sinus opening enlargement and minimizing surgical tearing procedures. To ensure proper nasal ventilation, smooth mucosa, and structural integrity, it is crucial to eliminate inflammation, edema of the mucosa, and polyp-like lesions[9]. Additionally, it plays an active role in safeguarding both normal and edematous mucosa from potential benign outcomes. Nasal endoscopic surgery offers numerous benefits such as reduced trauma area, improved visibility during the procedure, and enhanced recovery rates. However, implementing standardized postoperative care measures significantly contributes to patients' recovery after surgery while minimizing the risk of disease recurrence[10,11].

The nursing model based on the system is a contemporary and compassionate approach to providing healthcare[12]. The document includes a range of nursing interventions, such as providing guidance to patients on adhering to the doctor's instructions, maintaining nasal cavity care, enhancing self-care awareness, ensuring surgical effectiveness, and minimizing complications[13]. This nursing model enhances the integration of the nursing process, improves nursing interventions, and promotes a more comprehensive and systematic approach to clinical nursing[14]. The comprehensive systemic nursing model is widely implemented in various clinical areas, including rectal cancer surgery, cancer-related pain management, thoracotomy recovery, deep vein thrombosis treatment, hemodialysis support, and chemotherapy for esophageal cancer[15].

The results of this study showed that the total postoperative recovery rate of patients with CSNPS in the experimental group (98.46%) was higher than that in the comparison group (79.69%). The total satisfaction rate of patients with CSNPS after nursing in the experimental group (98.46%) was higher than that in the comparison group (79.69%). Before nursing, the sinusoidal and nasal scores in the experimental group were 20.29 ± 7.25 points, compared with 20.30 ± 7.27 points in the control group. After nursing, the sinusoidal and nasal scores of the experimental group were 8.85 ± 3.22 points, compared with the group's 14.99 ± 5.02 points; Finally, it was found that before nursing, there was no statistical significance in the sinusoidal and nasal scores of patients with CSNPS in the experimental group compared with the comparison group ($P > 0.05$); After nursing, the sinusoidal and nasal scores of patients with CSNPS in the experimental group were lower than those in the comparison group. In this paper, the total effective rate of the observation group was 98.1% higher than that of the control group, which fully proved the feasibility of comprehensive nursing intervention for patients with CSNPS.

This disparity can potentially be attributed to the subjective perception of improved care due to the implementation of a systematic nursing model, resulting in alleviated pain and anxiety, reduced complications, and enhanced clinical outcomes. Nevertheless, in this investigation, we did not evaluate the recurrence rate post-discharge or incorporate a substantial sample size for long-term investigations on the nursing effects. The conduction of these studies is crucial in order to validate the feasibility and significance of implementing a systemic nursing model in patients undergoing nasal endoscopy for chronic sinonasal pain.

Table 3 Clinical comparison of sinusoidal and nasal scores between two groups of patients with chronic sinusitis and nasal polyps [(mean \pm SD), points]

Group	Before nursing	After nursing
Experimental group (<i>n</i> = 65)	20.29 \pm 7.25	8.85 \pm 3.22
Control group (<i>n</i> = 64)	20.30 \pm 7.27	14.99 \pm 5.02
χ^2 value	0.008	8.282
<i>P</i> value	0.994	0.000

CONCLUSION

In conclusion, comprehensive nursing intervention in patients with chronic rhinosinusitis and nasal polyps can significantly improve the total recovery rate after nasal endoscopic surgery, significantly improve the total satisfaction rate after nursing, and significantly reduce the sinus and nasal scores, and finally fully promote the improvement of the quality of care and the condition rehabilitation of patients with chronic rhinosinusitis and nasal polyps.

FOOTNOTES

Author contributions: Xu H, Pan M, and Zhu L designed the research; Pan M contributed new reagents/analytic tools; Zhu L analyzed the data; Xu H and Pan M wrote the paper. Xu H and Pan M contributed equally to this work as co-first authors. The reasons for designating Xu H and Pan M as co-first authors are threefold. First, the research was performed as a collaborative effort, and the designation of co-first authorship accurately reflects the distribution of responsibilities and burdens associated with the time and effort required to complete the study and the resultant paper. This also ensures effective communication and management of post-submission matters, ultimately enhancing the paper's quality and reliability. Second, the overall research team encompassed authors with a variety of expertise and skills from different fields, and the designation of co-first authors best reflect this diversity. This also promotes the most comprehensive and in-depth examination of the research topic, ultimately enriching readers' understanding by offering various expert perspectives. Third, Xu H and Pan M contributed efforts of equal substance throughout the research process. The choice of these researchers as co-first authors acknowledges and respects this equal contribution, while recognizing the spirit of teamwork and collaboration of this study. In summary, we believe that designating Hui Xu and Miao Pan as co-first authors is fitting for our manuscript as it accurately reflects our team's collaborative spirit, equal contributions, and diversity.

Institutional review board statement: This study protocol was approved by The first People's Hospital of Jiangxia District, and all the families have voluntarily participated in the study and have signed informed consent forms.

Informed consent statement: All study participants or their legal guardian provided informed written consent about personal and medical data collection prior to study enrolment.

Conflict-of-interest statement: The authors declared no conflict of interest existing in this paper.

Data sharing statement: Technical appendix, statistical code, and dataset available from the corresponding author at A159Sunny@126.com. Participants gave informed consent for data sharing.

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S-Editor: Lin C

L-Editor: A

P-Editor: Zhang YL

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