

Current status and effects of psychological pain management in patients undergoing anorectal surgery

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Abstract

This study aims to comprehensively evaluate the current status and effect of psychological pain management in patients undergoing anorectal surgery, and to explore its application methods and influencing factors. Anorectal diseases are common digestive diseases, and their incidence is increasing year by year. The severe postoperative pain not only affects the physiological function of patients, but also easily causes psychological problems, such as anxiety and depression, forming psychological pain. Psychological pain management, as an emerging comprehensive nursing strategy, combines multidisciplinary knowledge such as psychology, medicine, and nursing. Through psychological intervention measures such as cognitive intervention, emotional support, and pain management education, it aims to relieve patients' pain and anxiety, and improve treatment satisfaction and quality of life. The status and effect of psychological pain management in patients undergoing anorectal surgery were comprehensively evaluated through questionnaire surveys. The study found that psychological pain management has been widely used among patients, especially cognitive behavioral therapy and relaxation training, which show their importance in pain management due to their high acceptance and satisfaction. Psychological pain management shows moderate to high effects in relieving pain, promoting postoperative recovery, and improving patient comfort. The key factors affecting the effect of psychological pain management include the type of surgery, attitude of medical staff, individual differences, and family support. Although most patients have some understanding of psychological pain management, there is still room for improvement, especially in the diversity of methods and medical staff training. The study recommends strengthening publicity and education on psychological pain management, improving the professional ability of medical staff, paying attention to individual differences of patients, and exploring diversified management methods.

Keywords: anorectal surgery, psychological pain, pain management, cognitive behavioral therapy, psychological intervention, anxiety, relaxation training

Current status and effects of psychological pain management in patients undergoing anorectal surgery

1. Introduction

Anorectal diseases are common digestive system diseases, including hemorrhoids, anal fissures, anal fistulas, etc. These diseases not only threaten the health of patients, but also seriously affect their quality of life. They are often accompanied by symptoms such as pain, bleeding, and difficulty in defecation, which bring physical and mental pain to patients. Anorectal surgery occupies an important position in the field of surgery. The application of minimally invasive surgery such as laparoscopic surgery and trans-anal endoscopic surgery (TEM) and its technological advances have brought hope of cure to many patients. Due to the particularity of the surgical site, postoperative pain is particularly severe, which is a common problem faced by patients. It not only affects the patient's appetite and digestive function, but may also cause psychological problems, such as anxiety and depression, affecting the surgical effect and recovery process (Cheng, 2018). This pain not only comes from physical trauma, but also partly caused by psychological factors, the so-called psychological pain.

Psychological pain, as the psychological pain and discomfort caused by disease or trauma, is intertwined with pain perception, forming a vicious circle (Guo et al., 2020). Studies have shown that the incidence of psychological pain in patients with anorectal diseases is high, which is closely related to the severity of the disease, the treatment process and the rehabilitation effect. Anxiety, depression and sleep disorders are common manifestations of psychological pain, which not only aggravate the patient's pain experience, but also may lead to a decrease in treatment compliance and affect the rehabilitation effect. Effective psychological intervention measures can help patients relieve psychological pressure and reduce pain perception, thereby accelerating the rehabilitation process and improving the quality of life. In order to effectively manage psychological pain, psychological pain management strategies have emerged. This is an emerging comprehensive nursing treatment strategy that combines multidisciplinary knowledge such as psychology, medicine, and nursing. Through the implementation of predictive nursing intervention and psychological care, such as cognitive intervention, emotional support, pain management education, etc., it aims to relieve patients' pain and anxiety and improve treatment satisfaction and quality of life. At the same time, non-drug treatment methods such as cognitive behavioral therapy, relaxation training, mindfulness meditation, biofeedback, etc. are also widely used in psychological pain management to help patients better understand and control pain experience and reduce dependence on drugs.

The application and current status of psychological pain management in anorectal surgery patients has important theoretical and practical significance. By deeply exploring the application effect and current status of psychological pain management in anorectal surgery patients, we aim to provide a useful reference for clinical practice. This will not only help improve the postoperative rehabilitation effect of patients, but also provide new perspectives and ideas for research in related fields. At the same time, with the transformation of medical models and the diversification of patient needs, psychological pain management will become an indispensable part of future medical services.

Research Significance - Theoretical contribution: First, it enriches the theory of psychological pain management and provides new perspectives and methods for the assessment and intervention of psychological pain; second, it expands the research field of anorectal disease nursing and provides a scientific basis for the overall care of anorectal disease patients. Practical value: First, it improves the quality of life of anorectal disease patients. Through effective psychological pain management, it helps patients relieve pain, improve emotional state, and improve the quality of life; second, it improves the doctor-patient relationship. Through psychological pain management, it enhances communication and understanding between doctors and patients and builds a harmonious doctor-patient relationship; third, it reduces medical costs. By improving treatment effects and

patient satisfaction, it reduces unnecessary consumption of medical resources and reduces medical costs.

Research Objectives - This study aims to comprehensively evaluate the current status and effectiveness of psychological pain management in patients undergoing anorectal surgery, including: exploring methods of psychological pain management; evaluating the effectiveness of psychological pain management; and exploring influencing factors.

2. Methods

Research Design - This study adopts a descriptive quantitative research to systematically collect and analyze data through questionnaire surveys to explore the current status and effects of psychological pain management in patients undergoing anorectal surgery. Through quantitative methods, it can more intuitively show the actual application of psychological pain management and its impact on patients' postoperative recovery and quality of life.

Research Participants - This study was designed and implemented by the researcher under the professional guidance of her master's thesis adviser. At the same time, she received support and cooperation from the hospital's clinicians and nursing team during the research process. The subjects were patients who had undergone anorectal surgery in a tertiary hospital in Henan Province, China. The sample selection criteria are as follows: (a) Inclusion criteria: (1) Patients aged 18 years and above with full civil capacity; (2) Patients who have undergone anorectal surgery in our hospital; (3) Voluntarily participate in this study and sign the informed consent. (b) Exclusion criteria: (1) Patients with severe mental illness or cognitive impairment; (2) Patients who are unable to cooperate in completing the questionnaire survey (such as language communication barriers, visual impairment, etc.). (c) Sample size: According to the research purpose and statistical requirements, it is expected to collect at least 100 valid questionnaires to ensure the representativeness and reliability of the research results.

Research Tools

Questionnaire Design Basis and Principles: The design basis of this questionnaire is clear, and it aims to rely on the latest research results and practical experience in the field of psychological pain management at home and abroad to deeply explore the application effect and current status of this strategy in patients undergoing anorectal surgery. We aim to collect and organize a variety of psychological pain management methods through direct feedback from patients, evaluate their specific effects on patients' postoperative pain perception, anxiety level, recovery speed and satisfaction, and quantify their effects. At the same time, we analyze multiple factors that affect the effect of psychological pain management, such as patient personal characteristics, surgical methods, and professional capabilities of medical staff, to provide a scientific basis for the formulation of personalized intervention plans. In terms of design principles, we emphasize professionalism to ensure that the content of the questionnaire is based on the latest knowledge and practice in the field; pursue comprehensiveness to cover all aspects of psychological pain management; focus on targeting and design questions based on the specific needs of anorectal surgery patients; ensure readability and acceptability, use concise language to avoid excessive professional terms, and control the length of the questionnaire; adhere to anonymity and confidentiality to enhance patients' trust and willingness to participate; and incorporate objective evaluation indicators and quantitative standards to ensure the scientificity and comparability of the data, thereby providing solid data support for the optimization of psychological pain management and the improvement of surgical patient experience.

Questionnaire design: The questionnaire design of this study is closely centered around the research objectives, and in-depth reference is made to the research results of domestic and foreign research on the application of psychological pain management to surgical patients to ensure the professionalism, comprehensiveness and pertinence of the questionnaire content. The questionnaire contains five major contents: Basic information of patients: including gender, age, type of surgery, etc. Application methods of psychological pain management: asking patients about the psychological pain management methods they have received and

their satisfaction. Evaluation of the effect of psychological pain management: evaluating the impact of psychological pain management on patients' psychological pain and postoperative recovery. Analysis of influencing factors: exploring the factors that affect the effect of psychological pain management. Demands and expectations: understanding patients' understanding and expectations of psychological pain management. Current status and effects of psychological pain management in patients undergoing anorectal surgery

Serial number	Content
1	Basic information
2	Application methods of psychological pain management
3	Evaluation of the effectiveness of psychological pain management
4	Analysis of influencing factors
5	Demands and expectations

In the questionnaire on the current status and effects of psychological pain management in patients undergoing anorectal surgery, this article sets 1 to 4 questions based on the five aspects of basic information of patients, application methods of psychological pain management, evaluation of the effects of psychological pain management, analysis of influencing factors, and needs and expectations, totaling 15 questions.

Validation Process of Research Instruments - In the process of designing the questionnaire, we took the following steps to ensure the validity and reliability of the questionnaire: Pretest: A pretest was conducted in a small sample to evaluate the comprehensibility and operability of the questionnaire. This helped us identify and correct possible problems and ensure that the questionnaire could be clearly understood by the target group. Content validity: The questionnaire content was ensured to be consistent with the purpose of the study through expert review. We invited psychologists and medical experts to evaluate the questionnaire to ensure that the questionnaire items could comprehensively cover the key areas of the study. Expert approval: Based on the pretest and content validity evaluation, the questionnaire was approved by psychologists and medical experts. This provided us with confidence that the questionnaire design was suitable for large-scale surveys. Pilot test: Although traditional reliability tests such as Cronbach's α coefficient calculation were not conducted, we further verified the feasibility and validity of the questionnaire through pilot testing. The pilot test was conducted on participants in an actual application environment to ensure that the questionnaire could achieve the expected results in actual operation. Large-scale survey: After obtaining expert approval and completing the pilot test, we conducted a large-scale questionnaire survey. This step ensured the extensiveness and representativeness of data collection.

Data Collection Procedure - Data Collection Time and Method: Data collection is scheduled from June 1, 2024 to June 15, 2024. During this period, we first introduced the purpose, significance, methods and processes of this study to eligible participants through various channels such as the hospital's patient management system and social media platforms to ensure that they fully understand and understand the content of the survey. After obtaining the patient's explicit consent and signing the informed consent form, we will send the questionnaire link to eligible patients through the system or platform to formally invite them to participate in this survey. This process ensures the transparency of the study and the autonomy of the participants. Data Collection Location: Although the data collection process is mainly conducted online, the researchers and the hospital team still maintain close contact to ensure that the problems encountered by patients in filling out the questionnaire can be solved in a timely manner. Data Collection Quality Control: To ensure data quality, the following measures were taken: Detailed instructions for filling out the questionnaire were provided to reduce mis-filling and missing filling. Invalid data screening was set up to conduct preliminary review and collation of the collected data. For questionable data, verification was conducted with the patient by phone or email.

Ethical Principles - In the process of designing and implementing this questionnaire, we attach great importance to ethical principles and ensure that all operations comply with ethical standards. This questionnaire has not only undergone strict ethical review, but has also successfully passed ethical testing, thus ensuring that the research process fully respects and protects patient privacy and rights. Before officially conducting the survey, we explained the purpose, significance, methods used and the entire research process to the patients in detail, and

clearly informed them of the possible benefits and risks of participating in the survey, and finally obtained the informed consent of the patients. This process reflects our respect for patient autonomy and the full fulfillment of research ethical responsibilities. Statistical analysis software: After data collection is completed, we will use SPSS statistical analysis software to process and analyze the questionnaire data. These software can support complex statistical analysis, such as descriptive statistics, correlation analysis, regression analysis, etc., to help us deeply explore the laws and conclusions behind the data.

Statistical Analysis - The data and information involved in this study on the current status and effectiveness of psychological pain management in patients undergoing anorectal surgery are all derived from the actual data information of this questionnaire survey. In this questionnaire survey, a total of 140 questionnaires were distributed and 124 questionnaires were collected. In terms of the compilation, statistics and analysis of the questionnaire results, Frequency and percentage distribution and weighted mean and rank were used to evaluate the current status and effectiveness of psychological pain management in patients undergoing anorectal surgery, including: exploring methods of psychological pain management; evaluating the effectiveness of psychological pain management; and exploring influencing factors. All analyses were performed using SPSS version 28.

3. Results and discussion

Descriptive Statistical Analysis of Basic Information of Survey Subjects

In the questionnaire survey conducted in this article, a total of 124 valid questionnaires were collected, that is, 124 valid survey subjects. According to the statistics and collation of the questionnaires, the basic information of the survey subjects can be obtained. From table 1, we can conduct the following descriptive statistical analysis:

Table 1
Distribution of Respondents' Profile

Profile Variables	Frequency	Percentage
Sex		
Male	80	64.5
Female	44	35.5
Age		
18 - 30 years old	36	29.0
31 - 45 years old	44	35.5
46 - 60 years old	29	23.4
Over 60 years old	15	12.1
ARS Type		
Hemorrhoidectomy	35	28.2
Anal fisha	43	34.7
Anal fissure	30	24.2
Other surgeries	16	12.9
APM Acceptance		
Yes	99	79.8
No	25	20.2

Gender distribution: There are 80 male patients, accounting for 64.5% of the total number of patients; there are 44 female patients, accounting for 35.5% of the total number of patients. The number of male patients is significantly higher than that of female patients with a gender ratio of about 4:1. This finding is consistent with previous epidemiological studies on anorectal diseases (such as hemorrhoids, anal fistulas, anal fissures, etc.), suggesting that men may have a higher risk of developing these diseases.

Age distribution: There were 36 patients aged 18-30, accounting for 29.0% of the total number of patients; there were 44 patients aged 31-45, accounting for 35.5% of the total number of patients; there were 29 patients aged 46-60, accounting for 23.4% of the total number of patients; there were 15 patients aged 60 and above, accounting for 12.1% of the total number of patients; the age distribution was relatively uniform, but the 31-45 age group was the largest age group, with a total of 44 patients, accounting for 35.5%, indicating that this age

group is the peak period for anorectal diseases. The age distribution of patients was relatively uniform, but the proportion of patients in the 31-45 age group was the highest (35.5%), which may be related to factors such as increased life and work pressure, changes in eating habits, and reduced exercise among middle-aged people. In addition, although patients in the 18-30 and 46-60 age groups also account for a certain proportion, there are relatively few elderly patients aged 60 and above (12.1%). Therefore, in public health education and allocation of medical resources, special attention should be paid to the middle-aged population, while the needs of patients in other age groups should not be ignored.

Type of surgery: 35 patients underwent hemorrhoidectomy, accounting for 28.2% of the total number of surgical patients; 43 patients underwent anal fistula resection, accounting for 34.7% of the total number of surgical patients. This may be related to the complexity of anal fistula disease and the high difficulty of treatment, which often requires surgical intervention to achieve radical cure. ; 30 patients underwent anal fissure resection, accounting for 24.2% of the total number of surgical patients; 16 patients underwent other surgeries, accounting for 12.9% of the total number of surgical patients. Among them, 43 patients underwent anal fistula resection, which was the most common type of surgery, accounting for more than 34%, followed by hemorrhoidectomy and anal fissure resection.

Acceptance of psychological pain management: 79.8% of patients said they had received psychological pain management; 20.2% of patients said they had never received psychological pain management. This high proportion shows that psychological pain management, as an auxiliary therapy, has been widely accepted and applied in patients undergoing anorectal surgery, far exceeding the acceptance of many traditional medical interventions. This result is consistent with the existing literature. Chen (2023) pointed out in her study that the application of operating room pain care combined with psychological intervention in patients undergoing hemorrhoid surgery was effective and improved patient satisfaction and postoperative recovery quality. Similarly, Yan et al. (2023) also found that targeted psychological intervention had a positive effect on the relief of pain after anorectal surgery. These studies jointly support the importance and effectiveness of psychological pain management in anorectal surgery patients. According to the questionnaire results, it can be seen that about half of the patients (55.65%) had a relative understanding of psychological pain management before surgery. This data provides an important perspective on the patient's preoperative psychological preparation. This reflects the increasing attention paid to psychological care for patients in modern medical concepts and the growing demand for psychological intervention by patients themselves.

Psychological pain management is not only an auxiliary therapy, but also plays an important role in relieving patients' physical pain, promoting postoperative recovery and improving overall comfort. Especially in the specific field of anorectal surgery, psychological support and intervention are particularly important due to the sensitivity of the surgical site and the particularity of the postoperative recovery process. Patients' positive attitude towards psychological pain management further proves its great potential in improving the quality of medical services and patient satisfaction.

Application Methods and Satisfaction of Psychological Pain Management:

Selection of psychological pain management methods

Table 2

*Psychological Pain Management Approaches**

Indicators	Frequency	Percentage
1. Psychological support	48	48.5
2. Cognitive behavioral therapy	79	79.8
3. Relaxation training	74	74.7

**Multiple Responses*

Based on the data of 99 individuals who actually participated in the psychological pain management project, the following is a detailed analysis of the above statistical charts, as shown below: Psychological support: 48

people chose it, accounting for 48.5%. This shows that among the samples participating in the survey, nearly half of them chose psychological support as one of the psychological pain management methods. Cognitive behavioral therapy: 79 people chose it, accounting for 79.8%. This is a relatively high percentage, indicating that cognitive behavioral therapy is widely used in the sample. Relaxation training: 74 people chose it, accounting for 74.7%. This percentage is slightly lower than cognitive behavioral therapy, but it still shows that relaxation training is a frequently selected method.

Satisfaction with Psychological Pain Management

Table 3
Satisfaction on Psychological Pain Management Approaches

Indicators	WM	VI	Rank
1. Psychological support	3.43	Average	3
2. Cognitive behavioral therapy	3.56	Satisfied	1
3. Relaxation training	3.48	Average	2
Composite Mean	3.49	Average	

Legend: 4.50-5.00=Very Satisfied; 3.50-4.49=Satisfied; 2.50-3.49=Average; 1.50-2.49=Dissatisfied; 1.00-1.49=Very dissatisfied

For the experience of different psychological pain management methods, we collected and counted the participants' satisfaction ratings. The following are the results obtained after a detailed analysis of the above figure: S1 Psychological support: 99 valid data, average score 3.43 (standard deviation 1.17), satisfaction rating "Average", ranked 3rd. S2 Cognitive behavioral therapy: 99 valid data, average score 3.56 (standard deviation 1.10), satisfaction rating "Satisfied", ranked 1st. S3 Relaxation training: 99 valid data, average score 3.48 (standard deviation 1.29), satisfaction rating "Average", ranked 2nd. Comprehensive satisfaction: weighted mean is 3.49, satisfaction rating "Average".

Cognitive behavioral therapy helps patients cope with pain and stress more effectively by changing their thinking patterns and behavioral habits, thereby reducing pain perception and improving their overall psychological state. Song et al. (2024) studied the effects of cognitive behavioral intervention on pain scores and psychological states of patients undergoing laparoscopic liver resection under the guidance of the pain-free concept. It was found that cognitive behavioral intervention can effectively reduce patients' pain scores and improve their psychological states.

Relaxation training can help patients learn to relax themselves when facing pain by teaching them specific relaxation techniques, such as deep breathing and progressive muscle relaxation, thereby effectively reducing pain perception. This is consistent with the results of Ke et al. (2018), who found that the psychological intervention nursing model had a significant effect on the postoperative pain and satisfaction of patients undergoing anorectal surgery. Among them, relaxation training is widely used as an effective psychological intervention method. Another study by Lu et al. (2023) pointed out that relaxation training showed significant effects in the postoperative care of patients with simple anal fistula, and had a positive effect on reducing postoperative pain and improving anal function. The high satisfaction rate of both methods suggests that we should further promote and optimize these psychological pain management techniques in future clinical practice.

Patients' Self-Assessment of Postoperative Pain Levels

Table 4
Self-assessment of Postoperative Pain Level

Pain Level	Frequency	Percentage
Painless	24	19.4
Slight pain	43	34.7
Moderate pain	29	23.4
Severe pain	18	14.5
Unbearable pain	10	8.1

In the questionnaire survey on the application and effect of psychological pain in anorectal surgery patients,

the following conclusions can be drawn based on the sorting and ranking of the subjects' self-assessment of postoperative pain levels. Among all the respondents, 24 people, accounting for 19.4%, experienced no pain in their self-assessment of postoperative pain level. 43 people, accounting for 34.7%. 29 people, accounting for 23.4%. 18 people, accounting for 14.5%. 10 people, accounting for 8.1%. Pain level: Most respondents experienced moderate pain (29 people) or mild pain (43 people).

Effect of Psychological Pain Management in Patients Undergoing Anorectal Surgery

Table 5

Effectiveness of Psychological Pain Management

Indicators	WM	VI	Rank
1. Effect of psychological pain management on pain relief	3.84	Effective	1
2. Psychological pain management aids postoperative recovery	3.66	Effective	3
3. Evaluation of comfort with psychological pain management	3.78	Effective	2
Composite Mean	3.76	Effective	

Legend: 4.50-5.00=Very Effective; 3.50-4.49=Effective; 2.50-3.49=Moderate; 1.50-2.49=Ineffective; 1.00-1.49=Completely Ineffective

According to the results in the above table: PPM-EES (the effect of psychological pain management on pain relief): 124 valid data, average score 3.84 (standard deviation 1.35). PPM-POR effect (psychological pain management helps postoperative recovery): 124 valid data, average score 3.66 (standard deviation 1.27). CPM-Comfort (psychological pain management comfort evaluation): 124 valid data, average score 3.78 (standard deviation 1.21). PPM-EES: The average score of psychological pain management in pain relief is 3.8384, indicating that the effect is above average. PPM-POR effect: The average score of psychological pain management in helping postoperative recovery is 3.6613, which also indicates that the effect is above average. CPM-Comfort: The average comfort evaluation of psychological pain management is 3.7823, showing good comfort.

From the above, it can be seen that psychological pain management has shown moderate to high effects in relieving pain, promoting postoperative recovery, and improving comfort. These conclusions are similar to the application research of Guan et al. (2024) in patients with advanced pancreatic cancer pain. They found that cognitive-psychological-pain dimension-specific care can significantly improve patients' pain and psychological state. Similarly, Qi (2024)'s application in elderly patients with hip fractures also demonstrated the positive effects of psychological support intervention combined with multi-dimensional intensive care on pain and sleep quality. Specifically, the average score of psychological pain management in pain relief was 3.84 (out of 5 points), indicating that it has a significant effect on reducing patients' pain perception; the average score in postoperative recovery assistance was 3.66, which also showed that it played a positive role in promoting the recovery of patients' physical functions; and in terms of comfort assessment, the average score was 3.78, which further verified the effectiveness of psychological pain management in improving patients' overall feelings. The study by Yu et al. (2018) also emphasized the role of standardized psychological care in the management of perioperative negative emotions and postoperative pain in patients undergoing external excision and internal ligation of mixed hemorrhoids, further verifying the application value of psychological pain management in patients undergoing anorectal surgery.

Ranking Analysis of Factors Affecting Psychological Pain Management

Table 6

Factors Influence the Effectiveness of Psychological Pain Management

Factors*	Frequency	Percentage
1. Individual differences among patients	53	42.7
2. Type of surgery	74	59.7
3. Postoperative complications	73	58.9
4. Attitude of medical staff	61	49.2
5. Family support	44	35.5

*Multiple Responses

In this paper, in the questionnaire survey on the application and effect of psychological pain in anorectal surgery patients, the specific situation of factors affecting psychological pain management can be learned by sorting and sorting the respondents' choices in relevant survey.

According to the collected data, the following results can be obtained by sorting and statistics:

The most selected factor: The type of surgery is the most selected factor with 74 people and 59.7%. Analysis: The type of surgery is considered to be the most important factor affecting the effect of psychological pain management. Different types of surgery differ in terms of trauma degree, recovery period, pain nature, etc. These factors directly affect the patient's psychological state and pain perception, and thus affect the effect of psychological pain management. Therefore, it may be more effective to formulate specific psychological pain management strategies for different types of surgery.

The second factor: postoperative complications ranked second with 73 people and 58.9%. Analysis: Nearly 60% of the respondents believe that postoperative complications have a significant impact on psychological pain management. Postoperative complications not only increase the patient's physical pain, but also may cause negative emotions such as anxiety and fear, thereby reducing the effect of psychological pain management. Therefore, timely and effective prevention and treatment of postoperative complications is crucial to improving the effect of psychological pain management.

The third factor: the attitude of medical staff was selected by 61 people, accounting for 49.2%. Analysis: Nearly half of the respondents believe that the attitude of medical staff has an important impact on the effect of psychological pain management. The professionalism, communication skills and attitude of medical staff towards patients will directly affect the patient's sense of trust and psychological state. A positive, patient and caring attitude of medical staff can enhance the patient's confidence and improve the acceptance and effectiveness of psychological pain management.

The fourth factor: individual differences of patients were selected by 53 people, accounting for 42.7%. Analysis: This factor shows that patients widely recognize the role of individual differences in psychological pain management. Everyone's pain tolerance, psychological state, coping mechanism, etc. are different, and these factors may affect the effectiveness of psychological pain management. Therefore, personalized psychological pain management programs may be more effective.

The fifth factor: family support ranked last with 44 people and 35.5%. Analysis: More than one-third of the respondents believe that family support has a positive impact on psychological pain management. The support and companionship of family members provide emotional comfort and substantial help to patients, which helps to relieve patients' anxiety and tension, thereby enhancing the effectiveness of psychological pain management. Therefore, medical staff should encourage family members to actively participate in the psychological pain management process of patients.

Scoring of Factors Influencing Psychological Pain Management

Table 7

Impact of Factors Influence the Effectiveness of Psychological Pain Management

Indicators	WM	VI	Rank
1. Individual differences among patients	3.60	Significant Impact	3
2. Type of surgery	3.75	Significant Impact	1
3. Postoperative complications	3.53	Significant Impact	4
4. Attitude of medical staff	3.69	Significant Impact	2
5. Family support	3.48	General Impact	5
Composite Mean	3.61	Significant Impact	

Legend: 4.50-5.00=Great Impact; 3.50-4.49=Significant Impact; 2.50-3.49=General Impact; 1.50-2.49=Slight Impact; 1.00-1.49=No Impact

The figure shows the participants' scores on different methods of pain management, as follows: Individual differences among patients: Weighted mean (WM): 3.60, Impact rating (VI): Significant Impact Rank: 3,

indicating that about 42.7% of patients believe that individual differences have a significant impact on the effect of psychological pain management. The average weighted mean of 3.60 indicates that this impact is relatively important, but not as prominent as the type of surgery and the attitude of medical staff.

Type of surgery: Weighted mean (WM): 3.75, Impact rating (VI): Significant Impact, Rank: 1. The data shows that the type of surgery is the most significant factor affecting the effect of psychological pain management. More than half (59.7%) of the patients believe that the type of surgery has a significant impact on the management effect, and its weighted mean is the highest (3.75), indicating that the type of surgery plays a vital role in psychological pain management.

Postoperative complications: Weighted mean (WM): 3.53, Impact rating (VI): Significant Impact, Rank: 4. Nearly 60% of patients believe that postoperative complications have a significant impact on the effect of psychological pain management. Its weighted mean of 3.53 shows that this is also a factor that needs to be paid attention to. Although its ranking is slightly lower, it still has a significant impact.

Attitude of medical staff: Weighted mean (WM): 3.69, Impact rating (VI): Significant Impact, Rank: 2. About 49.2% of patients pointed out that the attitude of medical staff has a significant impact on the effect of psychological pain management. Its weighted mean of 3.69 is second only to the type of surgery, indicating that the professional attitude and service quality of medical staff play an important role in psychological pain management.

Family support: Weighted mean (WM): 3.48, Impact rating (VI): General Impact, Rank: 5. Although 35.5% of patients believe that family support has an impact on the effect of psychological pain management, its weighted mean of 3.48 and rating of "General Impact" indicate that this impact is relatively weak and belongs to the general impact category.

Composite Mean: Weighted mean (WM): 3.61, Impact rating (VI): Significant Impact. The weighted mean of all influencing factors is 3.61, which also falls within the "Significant Impact" range, further emphasizing that the effect of psychological pain management is affected by multiple factors.

From the above, we can conclude that:

1. The Central Position of Surgical Type: Surgery type is unanimously considered to be the primary factor affecting psychological pain management. This may be related to the direct impact of the surgery itself on the patient's physiological and psychological state. As pointed out by Yu et al. (2024), the type of surgery is an important factor in the patient's postoperative pain and anxiety. The complexity of the surgery and the size of the trauma directly affect the patient's pain experience and recovery process.
2. The Importance of the Attitude of Medical Staff: The attitude of medical staff ranked third among the influencing factors, but rose to second place when scoring, which reflects the high evaluation of the role of medical staff in pain management by patients. Good attitude of medical staff can significantly improve patient satisfaction and treatment effects. As stated by Cheng (2018), psychological prescriptions and care of medical staff play an important role in anorectal postoperative pain care.
3. The Complexity of Individual Differences: Individual differences ranked fourth in the ranking, but rose to third in the scoring, indicating that individual differences may be considered to have a wider impact than postoperative complications when specifically evaluating the impact of pain management. This is consistent with the study by Deng et al. (2024), who highlighted the positive effects of nursing intervention based on the Orem self-care model on patients' psychological stress response and pain.
4. Fluctuating Effects of Postoperative Complications: Postoperative complications ranked second in the ranking, but dropped to fourth in the scoring, which may reflect the uncertainty and variability of complications. Complications may have a significant impact on pain management in some cases and a

smaller impact in other cases, such as the crisis management nursing strategy for coping with complications studied by Zhang et al. (2023).

5. **The Stabilizing Effect of Family Support:** Family support ranked last in both ranking and scoring, which may indicate that although family support is helpful for patients' pain management, its role may be more indirect or limited compared with other factors. However, Qi (2024) pointed out that the combination of psychological support intervention and multidimensional intensive care can significantly improve the pain and sleep quality of elderly patients with hip fractures. When exploring the phenomenon that participants' ranking and scoring of the impact of psychological pain management factors in the questionnaire are inconsistent, we can conduct in-depth analysis from multiple dimensions. There may be the following reasons:

Cognitive bias: Participants may be influenced by availability inspiration when quickly sorting and tend to choose the first factor that comes to mind. When scoring in detail, they have more time to weigh and evaluate the specific impact of each factor.

Emotional factors: Some factors directly related to surgery may have a more direct impact on patients emotionally, resulting in overestimation in sorting. Emotional concerns and worries may make some factors occupy a more important position in the sorting.

Differences in understanding of scoring criteria: Participants may have different understandings of the scoring criteria, resulting in deviations in the weight allocation when scoring and sorting.

Multidimensional evaluation: During the scoring process, participants may comprehensively consider the multi-faceted impact of each factor, such as the impact of medical and nursing attitudes on pain perception, satisfaction, and overall psychological state.

Expectation-reality gap: Expectations for family support may be higher than actual experience, resulting in a gap between the actual role reflected in the scoring and patient expectations.

Individual differences: Different patients' pain thresholds, coping strategies, and personal experiences may lead to significant differences in their perception and evaluation of various factors.

Questionnaire design: The wording, order, and option settings of questionnaire questions may guide or influence participants' answers, thereby affecting the consistency of ranking and scoring.

Social expectations and cultural background: Different sociocultural backgrounds may cause patients to be influenced by specific social expectations when evaluating factors such as the attitude of medical staff.

Dynamic nature of pain: Postoperative pain and its influencing factors may change over time, resulting in differences in patients' evaluation of the same factor at different time points.

Information availability: Some factors may be overrated when ranking because they are easier for patients to recall or discuss, which may be related to the availability of information.

Participant motivation and goals: Participants may evaluate the importance of different factors based on their personal treatment goals and motivations, which may lead to a tendency to reflect factors that have a direct impact on achieving these goals when scoring.

Complexity of psychological interventions: The diversity of psychological interventions may cause patients to be influenced by multiple factors such as the type of intervention and implementation method when evaluating their effects, thereby affecting the evaluation of pain management factors.

Table 8
Preoperative Awareness of Psychological Pain Management

Responses	Frequency	Percentage
Yes	69	55.6
No	55	44.4

The results of the questionnaire showed how well patients knew about psychological pain management before surgery. The results showed that about half of the patients (55.65%) had learned or understood psychological pain management before surgery, while the other half (44.35%) had not. This data provides an important perspective on patients' psychological preparation before surgery.

Table 9
Areas of Psychological Pain Management

Areas*	Frequency	Percentage
1. Provide more psychological support	57	46.0
2. Introduce more psychological pain management methods	99	79.8
3. Strengthen psychological pain management training for medical staff	80	64.5

*Multiple Responses

Provide more psychological support (Area 1): Frequency: 57 people; Percentage: 46.0%. Nearly half (46%) of the respondents hope to provide more psychological support in psychological pain management. This shows that patients have a strong demand at the psychological level and look forward to more psychological assistance to relieve pain and anxiety. Introduce more psychological pain management methods (Area 2): Frequency: 99 people; Percentage: 79.8%. 80% of the respondents expressed the hope that more psychological pain management methods would be introduced, and this area was the most valued. This shows that the existing methods may not meet the needs of all patients, and patients expect to have more diverse options to help them better cope with pain.

Strengthen psychological pain management training for medical staff (Area 3): Frequency: 80 people; Percentage: 64.5%. More than 60% of the respondents believe that psychological pain management training for medical staff should be strengthened. This reflects that the medical team may lack sufficient relevant training and is unable to fully address patients' psychological pain management needs. It also emphasizes the importance of improving the capabilities of medical staff, indicating that patients value the professional capabilities of medical staff in this field and hope that medical staff can provide better psychological pain management services through more professional training. Medical staff in this field and hope that medical staff can provide better psychological pain management services through more professional training.

4. Conclusion and recommendations

Exploring methods of psychological pain management: The results of the study showed that psychological pain management has been widely used in patients undergoing anorectal surgery. Cognitive behavioral therapy and relaxation training are the most popular and effective psychological pain management methods for patients undergoing anorectal surgery. These two methods have not only been widely accepted and applied, but also patients have high satisfaction with them, indicating that they play an important role in psychological pain management. Evaluating the effectiveness of psychological pain management: Psychological pain management has shown moderate to high effects in relieving pain, promoting postoperative recovery, and improving patient comfort. Specifically, patients had high average scores in pain relief, postoperative recovery assistance, and comfort during management, which fully verified the effectiveness of psychological pain management. Exploring influencing factors:

Through data analysis, we found that the type of surgery was considered to be the most important factor affecting the effect of psychological pain management, showing that different types of surgery have a significant impact on the effect of psychological pain management. Although postoperative complications were ranked second in the ranking, they dropped to fourth in the scoring, which may reflect that the actual impact of

postoperative complications was less than expected. The attitude of medical staff was ranked second in the scoring, showing that the attitude of medical staff has a significant impact on the effect of patients' psychological pain management. Individual differences ranked fourth in the ranking, but rose to third in the scoring, indicating that individual physiological and psychological differences play an important role in actual pain management.

Family support was listed as the least important factor in both rankings, probably because professional medical and nursing services are relatively more critical in the medical environment. Most patients (55.6%) have a certain understanding of psychological pain management, but 44.4% of patients still do not understand it. Patients generally hope to be strengthened in psychological pain management, especially to introduce more management methods (79.8%) and strengthen the training of medical staff (64.5%). In summary, this study not only successfully explored the methods of psychological pain management in anorectal surgery patients and evaluated its effectiveness, but also deeply explored the key factors affecting the management effect. Based on these findings and combined with the actual situation of our hospital, we suggest that in future practice, we should further strengthen the publicity and education of psychological pain management, enrich the diversity of management methods, enhance the professional ability of medical staff, and pay attention to the individual differences of patients, so as to comprehensively improve the effect of psychological pain management and patient satisfaction. At the same time, future research should continue to explore complex factors such as individual differences and postoperative complications in order to continuously optimize and improve psychological pain management strategies.

Promote cognitive behavioral therapy and relaxation training: Strengthen education and publicity: Through hospital brochures, video materials, online courses, etc., popularize the basic principles, operation steps and benefits of cognitive behavioral therapy and relaxation training to patients, especially for those patients who do not know enough about psychological pain management before surgery (44.35%), to improve patients' awareness and acceptance. Professional team guidance: Form a multidisciplinary team composed of psychologists, rehabilitation therapists and nurses to provide personalized cognitive behavioral therapy and relaxation training guidance for surgical patients to ensure the correct implementation of the method. Differentiated psychological pain management strategies: Comprehensive assessment: Conduct a comprehensive psychological and physical assessment of patients before surgery to gain an in-depth understanding of individual differences in patients, such as personality, psychological tolerance, pain threshold, etc. Develop differentiated psychological pain management plans based on the characteristics of different types of surgery to ensure that the management strategy is more targeted and effective.

Customized management: Based on the evaluation results, tailor psychological pain management plans for patients, such as providing personalized relaxation music, adjusting the treatment environment, etc., to meet the needs of different patients. Improve the attitude and professional ability of medical staff: Strengthen training: Regularly train medical staff on knowledge and skills related to psychological pain management to improve their sensitivity and ability to deal with patients' psychological states. Establish an incentive mechanism: By commending outstanding cases and establishing an incentive mechanism, encourage medical staff to treat patients with a more positive and patient attitude and improve patient satisfaction. Enhance the role of family support: Strengthen communication: Medical staff should actively communicate with patients' families, explain the importance of psychological pain management, and encourage family members to participate in the patient's rehabilitation process. Provide guidance: Provide family members with simple psychological support skills and relaxation training methods to help them continue to support the patient's psychological recovery in a home environment. Introduce diversified management methods: Explore new technologies: Pay attention to the latest research results in the fields of psychology, neuroscience, such as virtual reality technology, mindfulness meditation APP, etc., and explore their application in psychological pain management.

Patient participation: Encourage patients to participate in the discussion and selection of psychological pain management methods, improve patients' initiative and participation, and enhance treatment effects. Response to diverse patient needs. Provide more psychological support: In response to the needs of nearly half of the patients

(46%), strengthen psychological support services, such as psychological counseling and psychological counseling. Introduce more management methods: In response to the expectations of 80% of the respondents, introduce more diverse psychological pain management methods, such as art therapy, music therapy, etc. Emphasis on medical staff training: In response to the suggestions of more than 60% of the respondents, strengthen medical staff's psychological pain management training to improve their professional capabilities in this field. Establish a feedback and improvement mechanism: Establish a feedback channel: Establish a special feedback channel to encourage patients and their families to put forward opinions and suggestions on the psychological pain management process. Continuous improvement: Based on the feedback results, continuously optimize the psychological pain management process and strategy to ensure continuous improvement of management results.

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