Exploring the Synergistic Role of Psychological Counseling, Pharmacotherapy, and Nursing Care in Managing Post-Surgical Anxiety: A Multidisciplinary Approach to Enhancing Recovery

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Abstract

Background: Post-surgical anxiety is a significant factor affecting recovery outcomes, including pain management and length of hospital stay. A multidisciplinary approach involving psychological counseling, pharmacotherapy, and nursing care may offer more comprehensive anxiety management and improve recovery.

Objective: This study aimed to assess the effectiveness of a multidisciplinary approach in reducing post-surgical anxiety, improving pain management, and enhancing recovery outcomes in patients undergoing elective surgery.

Methods: A randomized controlled trial was conducted at a tertiary hospital with 120 patients undergoing elective surgery. Participants were assigned to one of three groups: multidisciplinary care (psychological counseling, pharmacotherapy, nursing care), standard care (pharmacotherapy, nursing care), and control (pharmacotherapy only). Anxiety, pain levels, length of hospital stay, and patient satisfaction were assessed.

Results: The multidisciplinary care group showed significantly lower anxiety levels at 48 hours and 7 days post-surgery ($p=0.002$ and $p=0.001$, respectively), lower pain scores ($p=0.013$), and shorter hospital stays ($p=0.005$) compared to the other groups. Patient satisfaction was also higher in the multidisciplinary care group (92%, $p=0.018$).

Conclusion: A multidisciplinary approach integrating psychological counseling with pharmacotherapy and nursing care effectively reduces post-surgical anxiety, improves pain management, and enhances recovery outcomes. This model should be considered for broader implementation in post-surgical care.

Keywords: post-surgical anxiety, multidisciplinary care, psychological counseling, pharmacotherapy, nursing care, recovery outcomes

Introduction

Post-surgical anxiety is a common and often overlooked issue that can negatively impact patient recovery and overall outcomes. Studies have shown that high levels of anxiety before and after surgery can lead to increased pain perception, delayed wound healing, prolonged hospital stays, and higher rates of complications (Munafò and Stevenson, 2001). For many patients, managing anxiety is as important as managing physical pain, and effective anxiety reduction strategies are crucial to ensuring optimal recovery (Caumo and Ferreira, 2003).

Traditionally, post-surgical care has focused on physical recovery through pharmacotherapy and nursing support. Pharmacotherapy, particularly the use of analgesics and anxiolytics, is the cornerstone of post-operative pain and anxiety management. While effective in many cases, these pharmacological interventions often fail to address the psychological and emotional factors that contribute to post-surgical anxiety (Johns et al., 2015). Nurses play a vital role in providing emotional support and ensuring patients 'physical needs are met, but time constraints and high patient-to-nurse ratios may limit the depth of psychological care they can provide.

Recent research suggests that an interdisciplinary approach involving psychological counseling, in addition to traditional pharmacotherapy and nursing care, may provide a more comprehensive solution to managing post-surgical anxiety (Protogerou et al., 2015). Psychological interventions, such as cognitive-behavioral therapy (CBT) and relaxation techniques, have been shown to significantly reduce anxiety and improve patient outcomes when integrated into post-surgical care (Sockalingam et al., 2017). By addressing the emotional and cognitive aspects of anxiety, psychological counseling can complement pharmacological and nursing interventions, creating a synergistic effect that enhances recovery.

Despite the growing recognition of the importance of holistic post-surgical care, there is limited research exploring the combined effect of psychological counseling, pharmacotherapy, and nursing care on post-surgical anxiety. This study aims to fill this gap by investigating how a multidisciplinary approach can reduce anxiety and improve recovery outcomes in patients undergoing surgery.

Literature Review

Post-Surgical Anxiety: Prevalence and Impact on Recovery

Post-surgical anxiety is a significant issue that affects a large proportion of patients undergoing various types of surgery. Research shows that up to 80% of patients experience heightened levels of anxiety before surgery, and this anxiety often persists into the postoperative period, affecting recovery (Flanagan et al., 2015). Anxiety can increase a patient's perception of pain, delay wound healing, and prolong hospital stays, creating a cyclical pattern where fear and worry exacerbate physical symptoms (Munafò and Stevenson, 2001).

Anxiety in the post-surgical phase can also hinder adherence to treatment plans, including medication regimens and rehabilitation protocols, ultimately leading to poorer recovery outcomes. Studies suggest that addressing anxiety is crucial not only for emotional well-being but also for enhancing the physical aspects of recovery, such as pain management and mobility (Caumo and Ferreira, 2003).

Pharmacotherapy in Managing Post-Surgical Anxiety

Pharmacotherapy is the traditional cornerstone of post-surgical anxiety management, with anxiolytics and analgesics commonly prescribed to manage both anxiety and pain. Benzodiazepines, such as lorazepam or

midazolam, are often administered to reduce preoperative anxiety, and their use extends into the postoperative period to maintain calm and prevent anxiety-induced complications (Johns et al., 2015).

While pharmacotherapy is effective in reducing the physiological symptoms of anxiety, such as increased heart rate and blood pressure, it may not fully address the cognitive and emotional aspects of anxiety that patients experience. Research indicates that pharmacological interventions alone may have limited long-term effects on reducing anxiety, particularly in patients who experience high baseline levels of anxiety (Sockalingam et al., 2017). This suggests a need for complementary approaches that address both the mental and physical components of anxiety.

The Role of Nursing Care in Reducing Post-Surgical Anxiety

Nurses are often the primary providers of postoperative care and play a crucial role in managing patient anxiety. Through patient education, emotional support, and continuous monitoring, nurses help reduce anxiety and create a sense of security for patients (Swindale, 1989). Nursing interventions, such as providing information about the surgery and recovery process, listening to patients 'concerns, and offering reassurance, have been shown to significantly reduce anxiety levels in post-surgical patients (Sadati et al., 2013).

However, time constraints and high patient-to-nurse ratios can limit the extent to which nurses can provide individualized psychological care (Johansson et al., 2002). While nursing care addresses many immediate emotional and informational needs, nurses often rely on other team members, such as psychologists and pharmacists, to provide more specialized support. This underscores the importance of integrating psychological counseling into nursing care to create a more comprehensive approach to anxiety management.

Psychological Counseling as a Strategy for Managing Anxiety

Psychological counseling, particularly cognitive-behavioral therapy (CBT), has been shown to be an effective intervention for reducing post-surgical anxiety. CBT helps patients reframe negative thoughts and develop coping strategies to manage anxiety, fear, and uncertainty about surgery and recovery (Protogerou et al., 2015). Studies indicate that psychological interventions can significantly reduce preoperative and postoperative anxiety levels, thereby improving patient outcomes such as pain tolerance, wound healing, and overall satisfaction with care (Sockalingam et al., 2017).

In a meta-analysis of psychological interventions for post-surgical patients, Protogerou et al. (2015) found that patients who received counseling alongside pharmacotherapy reported lower anxiety levels and faster recovery compared to those who received pharmacotherapy alone. The study also highlighted that the combination of psychological support with other medical interventions can create a synergistic effect, where both psychological and physical health are improved.

Multidisciplinary Approaches to Post-Surgical Anxiety

Recent research has begun to emphasize the value of multidisciplinary approaches to managing post-surgical anxiety, where psychological counseling, pharmacotherapy, and nursing care work together to address the full spectrum of patient needs (Caumo and Ferreira, 2003). By combining these interventions, healthcare providers can address not only the physical symptoms of anxiety (such as increased pain sensitivity) but also the cognitive and emotional distress that patients experience during recovery (Munafò and Stevenson, 2001).

Several studies have explored how multidisciplinary teams can improve patient outcomes. For example, a study by Sockalingam et al. (2017) demonstrated that patients who received psychological counseling, in addition to standard medical care, experienced significantly lower levels of anxiety and reported higher satisfaction with their overall care. Similarly, Sadati et al.(2013) found that patients who received a combination of psychological support, nursing care, and pharmacological treatment had shorter hospital stays and fewer complications compared to those who received traditional care alone.

However, despite the promising outcomes of these multidisciplinary approaches, there remains a gap in the literature regarding how the integration of psychological counseling, pharmacotherapy, and nursing care can be systematically applied in clinical settings to manage post-surgical anxiety. The current study aims to fill this gap by exploring the synergistic effects of these interventions on reducing anxiety and enhancing recovery in patients undergoing surgery.

Gaps in the Literature

While individual studies have examined the benefits of pharmacotherapy, nursing care, and psychological counseling in managing post-surgical anxiety, few have investigated the combined effects of these interventions in a structured multidisciplinary care model. The literature indicates that each of these interventions offers unique benefits, but there is a lack of research exploring how they can be effectively integrated to enhance patient outcomes. This study seeks to address this gap by evaluating the combined effects of psychological counseling, pharmacotherapy, and nursing care on reducing post-surgical anxiety and improving recovery outcomes.

Methodology

Study Design

This study employed a randomized controlled trial (RCT) design to investigate the combined effects of psychological counseling, pharmacotherapy, and nursing care on managing post-surgical anxiety and enhancing recovery outcomes. Patients undergoing elective surgery were randomly assigned to one of three groups: (1) a multidisciplinary care group that received psychological counseling, pharmacotherapy, and nursing care, (2) a standard care group that received pharmacotherapy and nursing care only, and (3) a control group that received only standard pharmacotherapy post-surgery.

Setting

The study was conducted at a large tertiary care hospital. The hospital's surgical department handles a high volume of elective surgeries across various specialties, providing a suitable environment for assessing post-surgical anxiety and recovery outcomes. The study was conducted over a period of six months.

Participants

Participants were recruited from the hospital's elective surgery patient population. The recruitment process included pre-surgical consultations where patients were screened for eligibility.

- Inclusion Criteria:
  - Patients aged 18 years and older.
  - Patients scheduled for elective surgery (e.g., orthopedic, gastrointestinal, or gynecological procedures).
  - Patients with moderate to high levels of pre-surgical anxiety, assessed using the State-Trait Anxiety Inventory (STAI) or Hospital Anxiety and Depression Scale (HADS).

- Patients able to provide informed consent and participate in post-surgical follow-ups.

- Exclusion Criteria:
  - Patients with a diagnosis of severe psychiatric disorders (e.g., schizophrenia, severe depression).
  - Patients undergoing emergency surgery or non-elective procedures.
  - Patients with cognitive impairments that would interfere with participation in psychological counseling.

A total of 120 participants were enrolled and randomly assigned to one of the three study groups, with 40 participants per group. Randomization was performed using a computerized system to ensure equal allocation across the groups.

Intervention

The multidisciplinary care group (Group 1) received a combination of psychological counseling, pharmacotherapy, and nursing care. The intervention was structured as follows:

- Psychological Counseling: Participants in Group 1 received two 30-minute cognitive-behavioral therapy (CBT) sessions, one pre-surgery and one post-surgery, conducted by a licensed psychologist. The sessions focused on anxiety reduction techniques, cognitive reframing, and relaxation strategies to help manage post-surgical anxiety.

- Pharmacotherapy: All participants (across all groups) received standard pharmacological treatment for pain and anxiety management. This included analgesics (e.g., paracetamol, opioids) and anxiolytics (e.g., lorazepam) as prescribed by the attending physician.

- Nursing Care: Nurses provided routine post-surgical care, including pain management, wound care, and patient education. For participants in the multidisciplinary group, nurses also reinforced the psychological counseling interventions by providing emotional support, monitoring anxiety levels, and ensuring adherence to the prescribed care plan.

The standard care group (Group 2) received pharmacotherapy and nursing care without the additional psychological counseling sessions. The control group (Group 3) received only pharmacotherapy and did not receive any specialized nursing interventions for anxiety reduction beyond routine post-surgical care.

Data Collection

Data were collected at multiple time points: pre-surgery (baseline), 24 hours post-surgery, 48 hours post-surgery, and 7 days post-surgery. Data collection involved both quantitative and qualitative methods.

1. Anxiety Measurement: Anxiety levels were assessed using validated tools, the State-Trait Anxiety Inventory (STAI) and the Hospital Anxiety and Depression Scale (HADS). These scales were administered at baseline (pre-surgery) and at each post-surgical time point (24 hours, 48 hours, and 7 days post-surgery).

2. Recovery Outcomes: Recovery was assessed based on several factors:
   - Length of hospital stay: Measured from the time of surgery to discharge.
   - Pain levels: Recorded using the Visual Analog Scale (VAS) for pain at each post-surgical time point.
   - Patient satisfaction: Measured using a post-surgical satisfaction questionnaire focusing on care quality, anxiety management, and overall recovery experience.

- Post-surgical complications: Recorded from patient medical records, including infection rates, wound healing, and any unplanned readmissions.

3. Qualitative Data: Semi-structured interviews were conducted with 10 participants from the multidisciplinary care group to explore their experiences with the combined interventions. The interviews focused on patients 'perceptions of psychological counseling, nursing care, and how these interventions affected their anxiety and recovery.

Data Analysis

1. Quantitative Analysis:

- Anxiety Scores: A repeated-measures ANOVA was used to compare anxiety levels across the three groups at different time points (baseline, 24 hours, 48 hours, and 7 days post-surgery).
- Pain and Recovery Outcomes: Length of hospital stay, pain levels (VAS scores), and patient satisfaction scores were analyzed using independent t-tests and chi-square tests to compare differences between the groups.
- Statistical Significance: A p-value of <0.05 was considered statistically significant for all comparisons.

2. Qualitative Analysis:

- Thematic analysis was used to identify key themes from the semi-structured interviews. Transcripts were coded to explore how patients perceived the multidisciplinary interventions and their impact on reducing anxiety and enhancing recovery.

Ethical Considerations

Ethical approval for the study was obtained from the Ethics Committee. Written informed consent was obtained from all participants before enrollment in the study. Participants were informed about their right to withdraw from the study at any time without consequences. Confidentiality was ensured by anonymizing all patient data, and interview recordings were securely stored.

Trustworthiness

Several measures were taken to ensure the trustworthiness of the study:

- Credibility: Triangulation of data sources, including anxiety scales, recovery outcomes, and patient interviews, enhanced the credibility of the findings.
- Dependability: An audit trail documenting all research procedures was maintained to ensure transparency and reproducibility.
- Transferability: Thick descriptions of the study setting, participant demographics, and interventions were provided to allow readers to assess the applicability of the findings to other settings.
- Confirmability: Reflexivity was practiced by the research team, particularly during the qualitative data analysis, to minimize personal bias in interpreting patient experiences.

Findings

The study evaluated the effectiveness of a multidisciplinary approach involving psychological counseling, pharmacotherapy, and nursing care in reducing post-surgical anxiety and improving recovery outcomes. The findings are presented in two parts: quantitative data comparing anxiety levels, pain scores, and recovery outcomes across the three groups; and qualitative insights from patient interviews regarding their experiences with the multidisciplinary care model.

Quantitative Findings

Table 1: Comparison of Anxiety Levels, Pain Scores, and Length of Hospital Stay across Groups

Outcome	Multidisciplinary Care Group (n=40)	Standard Care Group (n=40)	Control Group (n=40)	P-value
Baseline Anxiety (STAI Score)	52.3 ±10.2	51.8 ±9.8	53.1 ±10.1	0.731
Anxiety at 48 Hours (STAI Score)	30.1 ±8.5	40.2 ±9.2	45.7 ±10.5	0.002
Anxiety at 7 Days (STAI Score)	25.6 ±7.9	35.1 ±8.8	40.8 ±9.9	0.001
Pain at 48 Hours (VAS Score)	3.8 ±1.5	4.9 ±1.9	5.4 ±2.2	0.013
Length of Hospital Stay (Days)	3.4 ±0.9	4.1 ±1.2	4.6 ±1.4	0.005
Patient Satisfaction (%)	92%	80%	67%	0.018

\P-value < 0.05 indicates statistical significance.

Anxiety Reduction

- Baseline Anxiety: There were no significant differences in baseline anxiety scores (STAI) between the three groups, confirming that all groups had comparable anxiety levels before surgery.
- Post-Surgical Anxiety (48 hours and 7 days): At 48 hours post-surgery, the multidisciplinary care group demonstrated significantly lower anxiety levels (30.1) compared to the standard care group (40.2) and control group (45.7) (p=0.002). At 7 days post-surgery, anxiety scores remained significantly lower in the multidisciplinary group (25.6) compared to the other groups (p=0.001).

Pain Scores

- At 48 hours post-surgery, the multidisciplinary care group reported significantly lower pain levels (VAS 3.8) compared to the standard care group (VAS 4.9) and control group (VAS 5.4) (p=0.013).

Length of Hospital Stay

- The average length of hospital stay was significantly shorter for the multidisciplinary care group (3.4 days) compared to the standard care group (4.1 days) and control group (4.6 days) (p=0.005).

Patient Satisfaction

- Patient satisfaction was highest in the multidisciplinary care group (92%) compared to the standard care group (80%) and control group (67%), with a statistically significant difference (p=0.018).

Qualitative Findings

Semi-structured interviews were conducted with 10 participants from the multidisciplinary care group to explore their experiences with psychological counseling, pharmacotherapy, and nursing care. Thematic analysis revealed three major themes: (1) emotional support and anxiety management, (2) patient-centered care, and (3) improved pain and recovery outcomes.

Theme 1: Emotional Support and Anxiety Management

Participants frequently described the psychological counseling sessions as essential in reducing their anxiety. Many noted that the pre-surgery counseling session helped them manage fear and uncertainty, while the post-surgery session provided coping strategies for the recovery period.

- Participant 6 (Orthopedic Surgery Patient):

"The counseling helped me calm my mind before the surgery. I felt more in control and knew how to deal with the anxiety afterward."

- Participant 3 (Gastrointestinal Surgery Patient):

"Having someone walk me through relaxation techniques made all the difference. It wasn't just about the pain – it was about feeling mentally prepared for the recovery."

Theme 2: Patient-Centered Care

Patients appreciated the combined attention they received from psychologists, pharmacists, and nurses, which they described as a holistic approach to care. Participants felt that each professional addressed different aspects of their recovery, making them feel more supported.

- Participant 9 (Gynecological Surgery Patient):

"It felt like a team was supporting me, not just one doctor or nurse. The counseling helped with my fears, and the nurses were always there to check on me. I wasn't just left to deal with it alone."

Theme 3: Improved Pain and Recovery Outcomes

Several participants reported that the multidisciplinary approach not only reduced their anxiety but also helped them manage their pain better, leading to a quicker recovery. Participants highlighted that the combination of emotional support and effective pain management reduced their need for medication and shortened their hospital stay.

- Participant 4 (Orthopedic Surgery Patient):

"I recovered faster than I thought I would. I think it was because they didn't just focus on the physical pain but helped me mentally prepare, too. I was able to leave the hospital earlier and felt good about it."

Discussion

This study explored the synergistic effects of psychological counseling, pharmacotherapy, and nursing care on reducing post-surgical anxiety and enhancing recovery outcomes. The findings demonstrate that a multidisciplinary approach significantly reduces anxiety, improves pain management, shortens the length of hospital stay, and increases patient satisfaction. These results suggest that integrating psychological support into standard medical and nursing care can have a profound impact on post-surgical recovery.

Reduction in Post-Surgical Anxiety

The study found that patients in the multidisciplinary care group experienced significantly lower anxiety levels compared to those in the standard care and control groups. At both 48 hours and 7 days post-surgery, anxiety scores were markedly lower in the group that received psychological counseling, in addition to pharmacotherapy and nursing care ($p=0.002$ and $p=0.001$, respectively). This reduction in anxiety can be attributed to the preoperative and postoperative psychological counseling sessions, which provided patients with coping strategies, relaxation techniques, and a greater sense of control over their recovery.

These findings align with previous research showing that psychological interventions, such as cognitive-behavioral therapy (CBT), can significantly reduce anxiety in medical patients by helping them reframe negative thoughts and develop positive coping mechanisms (Sockalingam et al., 2017; Protogerou et al., 2015). The ability of psychological counseling to address both the emotional and cognitive aspects of anxiety complements pharmacotherapy, which primarily targets physiological symptoms. As such, the results of this study reinforce the importance of incorporating psychological care into routine post-surgical treatment to enhance overall patient well-being.

Improved Pain Management

In addition to reducing anxiety, the multidisciplinary approach resulted in better pain management outcomes, as evidenced by lower pain scores in the multidisciplinary care group compared to the other groups ($p=0.013$). This suggests that psychological counseling may enhance the effectiveness of pharmacotherapy in managing post-surgical pain. Anxiety and pain are closely linked, with higher levels of anxiety often amplifying the perception of pain (Munafò and Stevenson, 2001). By reducing anxiety, psychological interventions likely helped patients experience less pain, reducing their reliance on medication.

These findings are consistent with research demonstrating that anxiety management improves pain tolerance in post-surgical patients (Caumo and Ferreira, 2003). Psychological counseling, by helping patients manage their emotional responses, may alter their pain perception and promote faster recovery. The inclusion of nurses in the care team further contributed to these positive outcomes, as their continuous monitoring and emotional support complemented the counseling sessions and helped ensure that patients were comfortable and adherent to their treatment plans.

Faster Recovery and Shortened Hospital Stays

Patients in the multidisciplinary care group had significantly shorter hospital stays compared to those in the standard care and control groups ($p=0.005$). This finding suggests that addressing both the mental and physical aspects of recovery can accelerate healing. Shorter hospital stays are a desirable outcome for both patients and healthcare systems, as they reduce the risk of hospital-acquired infections and lower healthcare costs.

Previous studies have shown that addressing psychological factors can lead to improved recovery outcomes, including faster wound healing and reduced postoperative complications (Johns et al., 2015). By alleviating anxiety, psychological counseling helps patients feel more confident in their recovery, enabling them to mobilize sooner and adhere to postoperative instructions, thus contributing to a faster discharge. The combined efforts of psychologists, pharmacists, and nurses ensured that patients received holistic care, addressing their medical, emotional, and practical needs throughout the recovery process.

Patient Satisfaction

Patient satisfaction was significantly higher in the multidisciplinary care group (92%) compared to the other groups, indicating that the combination of psychological counseling, pharmacotherapy, and nursing care provides a more positive patient experience. Patients in this group reported feeling more supported and better prepared for recovery, which likely contributed to their overall satisfaction. The qualitative findings highlighted that patients appreciated the emotional support provided by psychologists and nurses, which made them feel more secure and confident during their hospital stay.

This finding is consistent with the growing body of research emphasizing the importance of patient-centered care. Studies show that when patients feel their emotional and psychological needs are addressed, they report higher satisfaction with their care (Sadati et al., 2013). By integrating psychological counseling into the care model, this study illustrates how a multidisciplinary approach can improve not only clinical outcomes but also the subjective experience of care.

Challenges and Limitations

Despite the positive findings, the study had several limitations. First, the sample size was relatively small, with only 120 participants, which may limit the generalizability of the findings. Additionally, the study was conducted in a single tertiary hospital, and results may vary in different clinical settings or among patients undergoing different types of surgeries. Future research with larger sample sizes and multi-center trials would provide more robust data on the effectiveness of this multidisciplinary approach.

Another limitation is the reliance on patient-reported outcomes, such as anxiety and pain scores, which may be subject to bias. Although validated tools were used to measure anxiety (STAI, HADS) and pain (VAS), these measures are inherently subjective. Incorporating objective measures, such as physiological indicators of stress or long-term recovery outcomes (e.g., rates of complications or readmissions), could provide additional insights into the effectiveness of the multidisciplinary approach.

Implications for Clinical Practice

The results of this study have important implications for clinical practice. First, they highlight the value of integrating psychological counseling into post-surgical care, particularly for patients who exhibit high levels of preoperative anxiety. Hospitals should consider implementing routine psychological screenings and offering counseling services as part of the standard preoperative and postoperative care process.

Second, the findings suggest that collaboration between psychologists, pharmacists, and nurses can lead to better recovery outcomes. This multidisciplinary approach addresses the complex interplay between physical and psychological factors in recovery, ultimately leading to faster healing, reduced pain, and higher patient satisfaction. Healthcare providers should foster greater collaboration between these professionals to ensure that patients receive comprehensive care that meets both their medical and emotional needs.

Future Research

Future research should focus on expanding the study to include a larger and more diverse patient population, as well as different types of surgeries. Additionally, exploring the long-term effects of the multidisciplinary approach on post-surgical recovery, such as the impact on complication rates, readmissions, and long-term psychological well-being, would provide valuable insights into the sustained benefits of this care model. Finally, further investigation into the cost-effectiveness of integrating psychological counseling into routine post-surgical care could help justify broader implementation of these interventions.

Conclusion

This study demonstrates that a multidisciplinary approach involving psychological counseling, pharmacotherapy, and nursing care is highly effective in reducing post-surgical anxiety, improving pain management, and enhancing overall recovery outcomes. By addressing both the emotional and physical aspects of recovery, this approach leads to faster healing, shorter hospital stays, and higher patient satisfaction. These findings underscore the importance of holistic, patient-centered care in improving surgical outcomes and suggest that integrating psychological support into standard care should become a routine practice in post-surgical management.

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