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## Study Of Impact Of Preoperative Anxiety On Postoperative Recovery.

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### ABSTRACT

Preoperative anxiety is a common phenomenon among surgical patients and has been linked to various adverse postoperative outcomes. Understanding its impact on postoperative recovery is crucial for optimizing patient care and surgical outcomes. This prospective observational study, conducted over one year, enrolled 50 patients undergoing elective surgery. Preoperative anxiety was assessed using standardized tools, and postoperative recovery outcomes, including pain scores, analgesic requirements, length of hospital stay, and postoperative complications, were recorded. Higher preoperative anxiety levels were associated with increased postoperative pain scores, greater analgesic requirements, prolonged hospital stays, and higher rates of postoperative complications, including surgical site infections and wound dehiscence. Preoperative anxiety significantly impacts postoperative recovery outcomes, emphasizing the importance of addressing psychological distress in preoperative care. Multidisciplinary interventions targeting preoperative anxiety may improve surgical outcomes and patient satisfaction.

**Keywords:** Preoperative anxiety, postoperative recovery, surgical outcomes.

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## INTRODUCTION

Surgery, despite its life-saving potential, often evokes anxiety and stress in patients [1]. Preoperative anxiety, characterized by apprehension and worry before surgery, has been identified as a significant factor affecting the overall surgical experience and postoperative outcomes [2]. As a complex psychological phenomenon, preoperative anxiety encompasses various cognitive, emotional, and physiological components, which can significantly impact an individual's physiological responses to surgery and subsequent recovery [3].

The importance of addressing preoperative anxiety lies not only in enhancing patient comfort and satisfaction but also in optimizing surgical outcomes and reducing the risk of postoperative complications [4]. Studies have shown that heightened preoperative anxiety is associated with increased pain perception, delayed wound healing, prolonged hospital stays, and higher rates of postoperative complications [5, 6]. Moreover, preoperative anxiety can also interfere with the effectiveness of anesthesia and analgesia, leading to suboptimal pain management strategies during the postoperative period [7].

Understanding the mechanisms underlying the relationship between preoperative anxiety and postoperative recovery is crucial for developing targeted interventions aimed at alleviating preoperative distress and promoting better surgical outcomes [8]. By exploring the multidimensional nature of preoperative anxiety and its impact on physiological processes and recovery trajectories, healthcare professionals can implement comprehensive preoperative care strategies tailored to individual patient needs, ultimately improving the overall surgical experience and patient outcomes.

## METHODOLOGY

A prospective observational study design, conducted over the duration of one year, aimed at investigating the impact of preoperative anxiety on postoperative recovery outcomes. A sample size of 50 patients undergoing elective surgery was selected from a tertiary care hospital. Upon enrollment, patients were assessed for preoperative anxiety using validated anxiety assessment tools - State-Trait Anxiety Inventory (STAI) and the Hospital Anxiety and Depression Scale (HADS).

Preoperative anxiety levels were measured within 24 hours prior to surgery to capture the immediate preoperative state of distress. Additionally, demographic data including age, gender, comorbidities, and surgical history were collected to account for potential confounding variables.

Following surgery, postoperative recovery outcomes were monitored and recorded for each patient during their hospital stay and at specified follow-up intervals. Parameters such as postoperative pain scores, analgesic requirements, length of hospital stay, occurrence of postoperative complications, and patient-reported satisfaction with the surgical experience were documented. Statistical analysis, including descriptive statistics and inferential tests such as regression analysis, was performed to evaluate the association between preoperative anxiety levels and postoperative recovery outcomes, while controlling for relevant covariates.

## RESULTS

**Table 1: Demographic Characteristics of Study Participants**

Demographic Variable	Mean $\pm$ SD / Frequency (%)
Age (years)	54.2 $\pm$ 8.6
Gender	
Male	25 (50%)
Female	25 (50%)
Comorbidities	
Hypertension	15 (30%)
Diabetes	10 (20%)
Others	25 (50%)
Surgical History	
Previous surgeries	20 (40%)
No previous surgeries	30 (60%)

**Table 2: Preoperative Anxiety Levels of Study Participants**

Anxiety Assessment Tool	Mean ± SD (Range)
State-Trait Anxiety Inventory (STAI)	47.8 ± 6.4 (30-60)
Hospital Anxiety and Depression Scale (HADS)	12.3 ± 3.2 (7-18)

**Table 3: Postoperative Recovery Outcomes**

Recovery Parameter	Mean ± SD / Frequency (%)
Postoperative Pain Scores	3.5 ± 1.2
Analgesic Requirements	
Morphine Equivalent Dose	25.4 ± 10.8 mg
Length of Hospital Stay	4.7 ± 1.9 days
Postoperative Complications	
Surgical Site Infection	10 (20%)
Wound Dehiscence	5 (10%)
Others	15 (30%)

**Table 4: Association between Preoperative Anxiety and Postoperative Recovery Outcomes**

Recovery Outcome	Regression Coefficient (95% CI)	p-value
Postoperative Pain Scores	0.78 (0.56 - 1.02)	<0.001
Length of Hospital Stay	0.95 (0.72 - 1.18)	<0.001
Postoperative Complications		
Surgical Site Infection	1.25 (0.84 - 1.66)	<0.001
Wound Dehiscence	0.62 (0.34 - 0.91)	0.003

## DISCUSSION

The present study investigated the relationship between preoperative anxiety and postoperative recovery outcomes among patients undergoing elective surgery. Our findings revealed significant associations between preoperative anxiety levels and various aspects of postoperative recovery, shedding light on the importance of addressing psychological distress in surgical care.

Firstly, our results demonstrated that preoperative anxiety was prevalent among the study population, with patients exhibiting moderate levels of anxiety as assessed by standardized anxiety assessment tools such as the State-Trait Anxiety Inventory (STAI) and the Hospital Anxiety and Depression Scale (HADS). This finding underscores the need for comprehensive preoperative assessment protocols that include the evaluation of psychological factors to identify and address preoperative distress effectively. The high prevalence of preoperative anxiety aligns with previous research highlighting the psychological impact of surgery and underscores the importance of incorporating psychological interventions into routine preoperative care to mitigate anxiety and enhance patient well-being [9].

Regarding postoperative recovery outcomes, our study revealed several noteworthy findings. Firstly, higher preoperative anxiety levels were associated with increased postoperative pain scores and greater analgesic requirements during the immediate postoperative period. This suggests that preoperative anxiety may contribute to heightened pain perception and decreased pain tolerance, leading to greater reliance on analgesic medications for pain management. The association between preoperative anxiety and postoperative pain has been documented in previous literature, highlighting the need for multidisciplinary pain management strategies that address both physiological and psychological factors to optimize pain control and enhance patient comfort following surgery [10].

Furthermore, our results demonstrated a significant association between preoperative anxiety and prolonged hospital stays, with patients experiencing higher levels of preoperative anxiety exhibiting longer recovery times. This finding is consistent with previous research linking preoperative anxiety to delayed recovery and prolonged hospitalization, possibly due to the physiological stress response associated with anxiety, which can impair immune function, delay wound healing, and prolong recovery. Prolonged hospital stays not only impose financial burdens on healthcare systems but also increase the

risk of healthcare-associated complications and diminish patient satisfaction. Therefore, strategies aimed at reducing preoperative anxiety may have the potential to shorten hospital stays and improve overall healthcare resource utilization.

In addition to physical recovery outcomes, our study also investigated the impact of preoperative anxiety on the incidence of postoperative complications. Our findings revealed a significant association between higher preoperative anxiety levels and increased rates of surgical site infections and wound dehiscence. This suggests that preoperative anxiety may compromise immune function and impair wound healing processes, predisposing patients to postoperative complications. The association between psychological distress and postoperative complications underscores the importance of addressing preoperative anxiety as part of comprehensive preoperative care protocols to mitigate the risk of surgical complications and improve surgical outcomes.

The implications of our findings extend beyond clinical practice to encompass broader healthcare policy and education initiatives. Healthcare providers play a crucial role in recognizing and addressing preoperative anxiety through patient education, communication, and psychological support interventions. By integrating evidence-based psychological interventions into routine preoperative care, such as relaxation techniques, cognitive-behavioral therapy, and preoperative anesthesia consultations, healthcare providers can help alleviate preoperative anxiety and enhance patient resilience to stress, thereby improving surgical outcomes and patient satisfaction.

Furthermore, healthcare policymakers should prioritize the implementation of multidisciplinary perioperative care pathways that incorporate psychological assessment and intervention components to address the holistic needs of surgical patients. By recognizing the integral role of psychological factors in surgical outcomes and recovery trajectories, healthcare systems can optimize resource allocation, reduce healthcare costs, and improve patient outcomes across the continuum of surgical care.

## CONCLUSION

In conclusion, our study underscores the significant impact of preoperative anxiety on postoperative recovery outcomes and highlights the importance of integrating psychological interventions into routine preoperative care to address the holistic needs of surgical patients. By recognizing and addressing preoperative anxiety, healthcare providers can optimize surgical outcomes, enhance patient satisfaction, and improve the overall quality of surgical care.

## REFERENCES

- [1] Stamenkovic DM, Rancic NK, Latas MB, Neskovic V, Rondovic GM, Wu JD, Cattano D. Preoperative anxiety and implications on postoperative recovery: what can we do to change our history. *Minerva Anestesiol* 2018;84(11):1307-1317
- [2] Gu X, Zhang Y, Wei W, Zhu J. Effects of Preoperative Anxiety on Postoperative Outcomes and Sleep Quality in Patients Undergoing Laparoscopic Gynecological Surgery. *J Clin Med* 2023;12(5):1835.
- [3] Baagil, H.; Baagil, H.; Gerbershagen, M.U. Preoperative Anxiety Impact on Anesthetic and Analgesic Use. *Medicina* 2023; 59:2069.
- [4] V Kuzminkaitė, J Kaklauskaitė, J Petkevičiūtė. Incidence and features of preoperative anxiety in patients undergoing elective non-cardiac surgery. *Acta Med Litu* 2019; 26 (1): 93.
- [5] Shawahna R, et al. Prevalence of Preoperative Anxiety among Hospitalized Patients in a Developing Country: A Study of Associated Factors. *Perioper Med* 2023; 12:47.
- [6] Eberhart L, et al. Preoperative Anxiety in Adults—A Cross-Sectional Study on Specific Fears and Risk Factors. *BMC Psychiatry* 2020; 20:140.
- [7] Abate SM, Chekol YA, Basu B. Global Prevalence and Determinants of Preoperative Anxiety among Surgical Patients: A Systematic Review and Meta-Analysis. *Int J Surg Open* 2020; 25:6–16.
- [8] Zemła A, et al. Measures of Preoperative Anxiety. *Anaesthesiol. Intensive Ther* 2019; 51:66–72.
- [9] Jones AR, Al-Naseer S, Bodger O, James ETR, Davies AP. Does Pre-Operative Anxiety and/or Depression Affect Patient Outcome after Primary Knee Replacement Arthroplasty? *Knee* 2018; 25:1238–1246.
- [10] Székely A, et al. Anxiety Predicts Mortality and Morbidity After Coronary Artery and Valve Surgery—A 4-Year Follow-Up Study. *Psychosom Med* 2007; 69:625–631.