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Study Of Impact Of Preoperative Anxiety On Postoperative Recovery.

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ABSTRACT

This prospective cohort study investigated the impact of preoperative anxiety on postoperative recovery among 50 surgical patients over a one-year period. Preoperative anxiety was assessed using standardized measures, and postoperative outcomes including pain scores, analgesic requirements, length of hospital stay, and complications were evaluated. Regression analyses revealed significant associations between preoperative anxiety and postoperative outcomes. Higher levels of preoperative anxiety were associated with increased pain scores ($\beta = 0.42$, $p < 0.001$), greater analgesic requirements ($\beta = 0.27$, $p = 0.003$), prolonged hospital stays ($\beta = 1.92$, $p = 0.002$), and higher incidence of complications ($p < 0.001$). These findings underscore the detrimental impact of preoperative anxiety on surgical outcomes and highlight the importance of addressing psychological factors in perioperative care. Strategies to mitigate preoperative anxiety may help optimize pain management, expedite postoperative recovery, and improve patient satisfaction. Future research should focus on developing effective interventions to alleviate preoperative anxiety and enhance surgical outcomes.

Keywords: Preoperative anxiety, Postoperative recovery, Pain management, Surgical outcomes.

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INTRODUCTION

Preoperative anxiety, characterized by apprehension and fear before surgery, is a prevalent phenomenon affecting patients worldwide [1]. Its impact on postoperative recovery has garnered significant attention in medical research and clinical practice [2]. Understanding the relationship between preoperative anxiety and postoperative outcomes is crucial, as it can influence patient well-being, healthcare costs, and hospital resources [3]. High levels of preoperative anxiety have been associated with a range of adverse postoperative effects, including increased pain perception, delayed wound healing, prolonged hospital stays, and heightened medication requirements. Furthermore, preoperative anxiety can exacerbate existing medical conditions and complicate the management of surgical patients [4-6]. Despite its recognized significance, preoperative anxiety remains under-recognized and inadequately addressed in many healthcare settings. Therefore, investigating effective strategies to preoperative anxiety and its impact on postoperative recovery is imperative for optimizing patient care and enhancing surgical outcomes.

METHODOLOGY

Our study employed a prospective cohort design to investigate the impact of preoperative anxiety on postoperative recovery among a sample of 50 surgical patients. Recruitment of participants was conducted over a period of six months, with inclusion criteria encompassing adults scheduled to undergo elective surgery across various specialties at multi-speciality hospital. Exclusion criteria comprised individuals with preexisting psychiatric disorders, cognitive impairment, or inability to comprehend the study procedures. Following informed consent, participants completed standardized preoperative anxiety assessments, including self-report questionnaires and clinical interviews, to ascertain baseline anxiety levels.

Baseline data collection also encompassed demographic information, medical history, and surgical details. Preoperative anxiety was quantified using validated scales such as the State-Trait Anxiety Inventory (STAI) and the Hospital Anxiety and Depression Scale (HADS). Surgical procedures were performed according to standard protocols, and postoperative care was delivered by multidisciplinary teams. Throughout the one-year study duration, participants were monitored for postoperative outcomes including pain scores, analgesic requirements, length of hospital stay, and complications. Additionally, follow-up assessments were conducted at specified intervals post-surgery to evaluate long-term recovery trajectories.

Data analysis was performed using appropriate statistical methods, including descriptive statistics, inferential tests, and regression analyses to elucidate the relationship between preoperative anxiety and postoperative outcomes. Covariates such as age, gender, comorbidities, and surgical complexity were accounted for in the analyses to mitigate potential confounding factors. The study findings contribute to the existing literature by elucidating the role of preoperative anxiety in shaping postoperative recovery trajectories, thereby informing clinical practice and interventions aimed at optimizing patient care in surgical settings.

RESULTS

Table 1: Descriptive Statistics of Participant Characteristics

Characteristic	Mean (SD) or Frequency (%)
Age (years)	56.4 (10.2)
Gender	
- Male	24 (48%)
- Female	26 (52%)
Education Level	
- High School	12 (24%)
- Bachelor's	20 (40%)
- Master's	10 (20%)
- Doctorate	8 (16%)
Surgical Specialty	
- Orthopedics	18 (36%)
- General Surgery	12 (24%)

- OBGY cases	10 (20%)
- Others	10 (20%)

Table 2: Preoperative Anxiety Scores (State-Trait Anxiety Inventory)

Anxiety Measure	Mean (SD)
State Anxiety	45.2 (7.3)
Trait Anxiety	48.6 (6.9)

Table 3: Postoperative Outcomes

Outcome Measure	Mean (SD) or Frequency (%)
Pain Scores (0-10)	3.2 (1.5)
Analgesic Requirements	
- Opioids.	25.6 (12.3) mg
Length of Hospital Stay (days)	4.8 (2.1)
Complications	
- Surgical Site Infection	6 (12%)
- Wound Dehiscence	4 (8%)
- Other Complications	10 (20%)

Table 4: Regression Analysis of Preoperative Anxiety on Postoperative Outcomes

Outcome Measure	Beta Coefficient (95% CI)	p-value
Pain Scores	0.42 (0.18, 0.65)	<0.001
Analgesic Requirements	0.27 (0.12, 0.42)	0.003
Length of Hospital Stay	1.92 (0.76, 3.08)	0.002
Complications		
- Surgical Site Infection	0.78 (0.32, 1.24)	0.001
- Wound Dehiscence	0.55 (0.18, 0.92)	0.004
- Other Complications	0.64 (0.28, 1.00)	0.001

Note: SD = Standard Deviation, CI = Confidence Interval.

DISCUSSION

The results of our study demonstrate a significant relationship between preoperative anxiety and various postoperative outcomes. Specifically, higher levels of preoperative anxiety were associated with increased pain scores, greater analgesic requirements, prolonged length of hospital stay, and higher incidence of postoperative complications such as surgical site infections and wound dehiscence. These findings align with prior research highlighting the detrimental effects of preoperative anxiety on surgical outcomes [6, 7].

The observed association between preoperative anxiety and postoperative pain is particularly noteworthy. The regression analysis revealed a significant positive relationship, indicating that for every unit increase in preoperative anxiety scores, there was a corresponding increase in postoperative pain scores. This finding underscores the importance of addressing preoperative anxiety as part of comprehensive pain management strategies in surgical settings. Interventions aimed at reducing preoperative anxiety, such as preoperative education, psychological support, and pharmacological interventions, may help mitigate postoperative pain and improve patient outcomes [8].

Similarly, the association between preoperative anxiety and analgesic requirements highlights the potential impact of psychological factors on pain management. Patients with higher levels of preoperative anxiety may require higher doses of analgesics to achieve adequate pain relief, which can increase the risk of adverse effects and contribute to healthcare costs. Strategies to optimize pain management in this population should take into account not only physiological factors but also psychological and emotional well-being [9, 10].

The finding of prolonged length of hospital stay among patients with elevated preoperative anxiety has important implications for healthcare resource utilization and patient care. Prolonged hospitalization not only imposes financial burdens on healthcare systems but also increases the risk of

hospital-acquired complications and delays in recovery. Efforts to identify and address preoperative anxiety early in the care continuum may help expedite postoperative recovery and reduce the length of hospital stays, ultimately improving patient satisfaction and reducing healthcare costs [11].

Moreover, the association between preoperative anxiety and postoperative complications underscores the multifaceted impact of psychological distress on surgical outcomes. Elevated preoperative anxiety may compromise immune function, impair wound healing, and increase susceptibility to infections, thus predisposing patients to a higher risk of postoperative complications. Strategies to mitigate preoperative anxiety should therefore be integrated into perioperative care protocols to minimize the risk of adverse events and optimize patient safety [12-14].

While the study contributes valuable insights into the relationship between preoperative anxiety and postoperative recovery, several limitations warrant consideration. First, the sample size was relatively small, which may limit the generalizability of the findings. Future studies with larger, more diverse samples are needed to confirm and extend these findings. Additionally, the study design was observational, precluding causal inferences about the relationship between preoperative anxiety and postoperative outcomes. Longitudinal studies and experimental designs are warranted to elucidate the causal mechanisms underlying these associations.

CONCLUSION

In conclusion, the findings of this study underscore the significant impact of preoperative anxiety on postoperative recovery among surgical patients. Addressing preoperative anxiety as part of comprehensive perioperative care protocols is essential for optimizing patient outcomes and enhancing the quality of surgical care. Future research should focus on developing and evaluating interventions to effectively mitigate preoperative anxiety and improve surgical outcomes. By addressing the psychological needs of surgical patients, healthcare providers can enhance patient satisfaction, reduce healthcare costs, and promote better postoperative recovery.

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