The International Journal of Indian Psychology
ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print)
Volume 14, Issue 2, April- June, 2026
DIP: 18.01.065.20261402, DOI: 10.25215/1402.065
https://www.ijip.in

Research Paper

A Comparative Study of Preoperative and Postoperative Psychological States in Surgical Patients

Sohini Routh[1]*, Dr. Deep Pathak[2]

ABSTRACT

Surgical procedures, whether elective or emergency, are often accompanied by significant psychological responses in patients. This study aims to comparatively assess the psychological states of patients in the preoperative and postoperative periods, examining variations in anxiety, depression, stress, and emotional well- being. A sample of surgical patients from a tertiary care hospital was evaluated using standardized psychological assessment tools at two intervals: one day before surgery and five to six days following the procedure. The findings indicate a marked increase in anxiety and stress levels during the preoperative period, with notable improvements in psychological well-being observed postoperatively, especially among patients with uncomplicated recoveries. However, patients experiencing postoperative complications exhibited sustained or heightened psychological distress. This research highlights the critical importance of integrated psychological support in surgical care, recommending routine mental health assessments and tailored interventions throughout the surgical timeline to promote better patient outcomes.

Keywords: *Preoperative, Postoperative, Psychological States, Surgical Patients*

Preoperative psychological states are typically characterized by heightened levels of anxiety, depression, uncertainty, and fear related to the procedure itself, anaesthesia, potential complications, and outcomes. These emotional responses can influence physiological parameters such as blood pressure, heart rate, and immune function, thereby affecting surgical risks and recovery rates. In contrast, the postoperative period, though potentially offering psychological relief after a successful procedure, may also be marked by pain, physical limitations, and concerns about prognosis, which can exacerbate or modify pre-existing psychological states.

While various studies have examined mental health conditions in surgical patients, there remains a need for comprehensive comparative analyses that evaluate psychological changes across the preoperative and postoperative phases. Such research is vital for identifying vulnerable patient groups, tailoring psychological interventions, and integrating mental health care into surgical practice.

[1]Student
[2]Clinical Psychologist
*Corresponding Author

Received: August 18, 2025; Revision Received: April 30, 2026; Accepted: May 02, 2026

This study aims to conduct a comparative analysis of the psychological states of patients before and after undergoing surgical procedures. By assessing parameters such as anxiety, depression, and overall emotional well-being at both stages, the research seeks to contribute to the development of holistic, patient- centred surgical care protocols that address not only physical but also mental health needs.

MENTAL HEALTH DISORDERS SUMMARY:

This textual context describes a lot commonplace intellectual fitness issues, outlining their key traits, underlying mechanisms, and impact on each day existence.

Preoperative Phase Disorders:

- **Preoperative Anxiety** is one of the most common psychological response that is related to fear of surgery, anaesthesia, complications, **Depression** is another problem that usually takes place due to anticipation of surgery that may trigger or worsen depressive symptoms, especially in chronic illness cases.
- **Panic Attacks** occur in acute episodes of intense fear, palpitations, and breathlessness before surgery.
- **Insomnia and Sleep Disturbances** are Often linked to anxiety and hospital environment unfamiliarity.

Postoperative Phase Disorders:

- **Postoperative Depression** can result from surgical outcomes, body image issues, chronic pain, or complications.
- **Postoperative Delirium** can cause acute, fluctuating confusion, especially in elderly patients or after major surgeries.
- **Post-Traumatic Stress Disorder (PTSD)** happens in cases of traumatic, emergency, or complicated surgeries.
- **Postoperative Anxiety** is Related to recovery concerns, physical limitations, and fear of relapse.
- **Adjustment Disorders** happen in difficulty coping with changes in health status or daily functioning post-surgery.
- **Chronic Pain Syndromes (with psychological components),** it can trigger anxiety, depression, and somatic symptom amplification.

Factors Influencing Mental Health Disorders:

The development of mental health disorders in surgical patients is influenced by a range of interconnected factors. Preoperative anxiety, fear of anaesthesia, concerns about surgical outcomes, and uncertainty about recovery are primary psychological triggers that can lead to heightened stress, anxiety, or depressive symptoms. A patient's personal history of mental illness, poor coping skills, and lack of emotional resilience further increase vulnerability to psychological distress. Additionally, physical factors such as the type of surgery, anticipated postoperative pain, complications, and physical limitations contribute to the onset or worsening of mental health conditions.

Social factors, including inadequate family or peer support, financial stress, and occupational concerns, play a significant role in affecting emotional well-being during the perioperative period. Moreover, the quality of communication and psychological preparation provided by healthcare professionals has a direct impact on a patient's mental state, where insufficient counseling or unclear information can intensify anxiety and depressive

symptoms. Together, these physical, psychological, social, and healthcare-related factors interact to shape the mental health outcomes of surgical patients before and after surgery.

Recovery Time in Surgical Patients
The period taken by a patient to regain physical, mental, and emotional well- being and resume normal daily activities after surgery

Average Recovery Time
Varies by type of surgery (minor, major, elective, emergency), patient's age and physical condition, presence of pre-existing medical or psychiatric conditions and the quality of postoperative care.

Example:
Minor procedures: 1–2 weeks**,** Major surgeries (orthopedic, cardiac, abdominal): 4–12 weeks or more. Psychosocial recovery (return to emotional baseline) may take **several weeks to months**

Factors Affecting Recovery Time
Recovery time in surgical patients is influenced by a combination of physical, psychological, social, and healthcare-related factors. The type and complexity of surgery, presence of postoperative complications, age, nutritional status, and existing medical conditions directly affect physical healing. Psychological factors like preoperative anxiety, stress, and depression have been shown to increase pain perception, delay mobilization, and prolong recovery. Additionally, strong social support systems and effective hospital care, including patient counseling, pain management, and rehabilitation services, play a vital role in enhancing recovery outcomes. Overall, faster and more complete recovery is achieved through a holistic approach that addresses both the physical and emotional well- being of surgical patients.

B. Psychological Factors
Psychological factors are internal, mental, and emotional conditions or processes that influence an individual's thoughts, feelings, behaviors, and responses to different situations, including physical health challenges such as surgery. These factors encompass a wide range of experiences, including emotions (like anxiety, fear, stress, and depression), personality traits, coping mechanisms, mental resilience, and cognitive perceptions of events. In healthcare settings, particularly during the perioperative period, psychological factors significantly affect how patients interpret pain, handle stress, adhere to medical instructions, and recover after surgery. These factors interact with physical health conditions, either positively or negatively, influencing treatment outcomes, recovery rates, and overall well-being**.**

Preoperative Anxiety and Stress:
Higher anxiety levels linked to slower wound healing and prolonged hospital stay.

- **Depression:** Can delay recovery by affecting motivation, appetite, sleep, and pain perception.
- **Coping Skills:** Patients with good coping strategies recover faster emotionally and physically.
- **Postoperative Emotional Support:** Support from family, friends, and healthcare staff accelerates psychological recovery.

C. Social and Environmental Factors

Social factors refer to the interpersonal, cultural, and societal influences that affect an individual's mental, emotional, and physical well-being. These include **family support, peer relationships, community involvement, socioeconomic status, educational background, occupational environment, and social norms**. In the context of surgical patients, strong social support systems have been shown to reduce preoperative anxiety, improve coping strategies, and enhance postoperative recovery.

Environmental factors are external, physical, and situational conditions that impact an individual's health, emotions, and behavior. These factors include the hospital setting, availability of healthcare services, cleanliness, noise levels, access to postoperative care facilities, and home recovery environment. A supportive, clean, and calm environment contributes positively to both the physical and psychological recovery of surgical patients, while a stressful or inadequate environment can increase anxiety, disrupt sleep, and hinder rehabilitation.

Social Support Systems:

Strong family and community support reduces anxiety and enhances recovery.

- **Financial Stress:** Concerns about medical expenses and employment can prolong psychological recovery.
- **Postoperative Rehabilitation Facilities:** Access to physiotherapy, counseling, and follow-up care shortens recovery time.

D. Surgical Team and Hospital Factors

Surgical team factors refer to the competencies, communication styles, attitudes, and behaviors of healthcare professionals directly involved in a patient's surgical care, including surgeons, anesthesiologists, nurses, and postoperative care staff. The effectiveness of the surgical team in delivering clear information, providing emotional support, managing intraoperative procedures, and addressing patient concerns significantly affects the patient's psychological well-being, anxiety levels, trust in the medical process, and overall recovery outcomes. Compassionate, well-coordinated, and communicative surgical teams are associated with lower patient anxiety, reduced preoperative fear, and smoother postoperative recovery experiences.

Hospital factors encompass the organizational, physical, and procedural aspects of the healthcare facility where surgery is performed. These include the quality of infrastructure, cleanliness, noise control, infection prevention measures, availability of psychological counseling services, hospital policies, and the efficiency of admission and discharge processes. Additionally, the accessibility of postoperative rehabilitation services, pain management protocols, and the provision of family-centered care influence both physical and psychological recovery. A supportive hospital environment that prioritizes patient-centered care contributes to reduced preoperative stress and improved overall surgical outcomes, while poorly managed hospital settings can increase anxiety, dissatisfaction, and the risk of complications.

- **Quality of Preoperative Counseling:** Reduces anxiety, improves patient cooperation, and shortens recovery time.
- **Communication and Patient Education:** Understanding the recovery process reduces uncertainty and distress.

- **Continuity of Care:** Regular follow-ups and addressing psychological concerns support smoother recovery.

Correlation Between Preoperative and Postoperative Psychological

The correlation between preoperative and postoperative psychological factors is well established in clinical research, highlighting how a patient's mental and emotional state before surgery significantly influences their psychological condition after the procedure. Patients who experience high levels of preoperative anxiety, stress, fear, or depressive symptoms are more likely to report increased postoperative emotional distress, including anxiety, depression, and heightened pain perception. This relationship is bidirectional — intense preoperative emotional responses can lead to increased sympathetic nervous system activity, disrupted sleep, and impaired coping mechanisms, all of which exacerbate postoperative pain, emotional instability, and recovery complications. Studies have shown that patients with unmanaged preoperative anxiety not only require higher doses of postoperative analgesics but also demonstrate delayed wound healing and prolonged hospital stays. Conversely, effective management of psychological factors before surgery through counseling, relaxation techniques, and clear communication has been associated with improved postoperative emotional outcomes, reduced pain, and faster recovery. This strong correlation underscores the importance of addressing psychological health in both the preoperative and postoperative phases to enhance overall surgical care and patient well-being.

Preoperative Stress and Postoperative Pain

Preoperative stress has a significant and well-documented impact on postoperative pain perception and management. Patients experiencing high levels of emotional stress before surgery are more likely to report increased pain intensity and discomfort after the procedure. This occurs because stress activates the body's physiological stress responses, including heightened sympathetic nervous system activity and elevated levels of stress hormones such as cortisol and adrenaline, which sensitize the body's pain receptors and lower pain thresholds. As a result, individuals with greater preoperative stress tend to experience amplified postoperative pain, require higher doses of analgesics, and face difficulties in pain control. Studies have consistently shown that stress- related psychological factors before surgery not only intensify the physical sensation of pain but also negatively affect emotional resilience and coping capacity during the recovery period. Consequently, preoperative stress management interventions—such as relaxation training, counseling, and patient education—have proven effective in reducing both postoperative pain levels and analgesic requirements, improving overall recovery outcomes.

Fear and Its Impact on Recovery

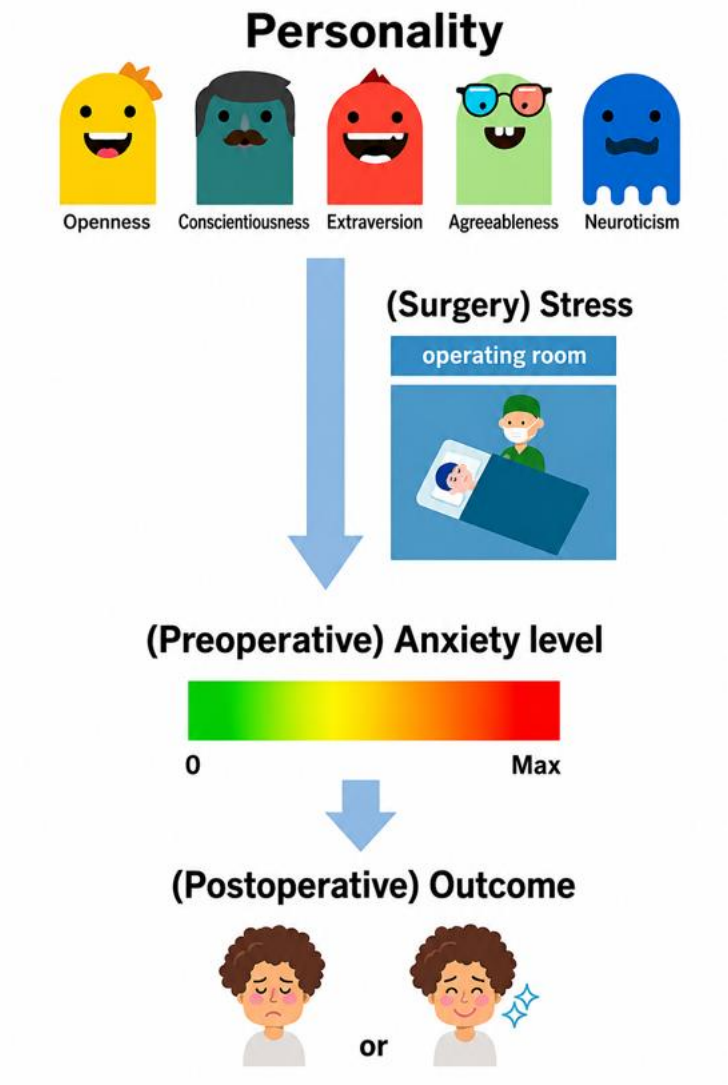
Pre-surgical fear (of anaesthesia, surgery, or complications) correlates with Higher postoperative anxiety as patients remain very stressed about their recovery time and they are always worried if they will be able to get back to their normal routine and functioning. Poor sleep quality before and after surgery due to anxiety and depression. Increased perceived pain intensity and Avoidance behaviours delaying rehabilitation.

Psychological preparation and counselling reduce fear and improve postoperative outcomes.

Pain Perception and Psychological State

Pain perception is subjective and highly influenced by emotional states. Anxious or depressed patients perceive higher pain levels for the same physical stimulus. Postoperative

pain intensity correlates with preoperative emotional distress. Patients with positive coping skills report lower pain levels and quicker recovery.



Inter-relationship Summary

Preoperative Factor	Postoperative Outcome	Correlation Direction
Anxiety	Increased pain perception, delayed recovery	Positive
Stress	Higher pain levels, prolonged hospital stay	Positive
Fear	Greater postoperative anxiety and pain	Positive
Depression (pre-op)	Poor pain management, slower psychological adjustment	Positive
Good psychological preparation	Lower postoperative pain and stress	Negative

LITERATURE REVIEW

1. Preoperative Anxiety as a Predictor of Postoperative Pain and Recovery

Preoperative anxiety is a properly-documented phenomenon that impacts a large wide variety of patients watching for surgical interventions. It is characterised by way of emotions of apprehension, nervousness, and fear related to the impending surgical procedure and its capacity effects. Over the years, researchers have an increasing number of examined how this psychological element impacts postoperative recuperation, with rising evidence suggesting that heightened preoperative tension might also adversely affect each physiological and mental postoperative effects.

A seminal study via Anderson et al. (2022), posted in *The Journal of Pain*, presents strong proof on the connection between preoperative anxiety and postoperative recuperation results. This potential cohort examine investigated 372 patients undergoing non-compulsory orthopaedic surgeries, aiming to evaluate how pre-surgical anxiety tiers impact pain belief and normal recuperation inside the immediate postoperative length.

Measurement Instruments and Methodology:

To assess preoperative tension, the researchers hired the Amsterdam Preoperative Anxiety and Information Scale (APAIS)—a confirmed instrument that quantifies both tension and the want for information previous to surgical procedure. Postoperative effects have been measured using Visual Analog Scales (VAS) for pain and nausea, at the side of the Quality of Recovery-15 (QoR-15) questionnaire, which offers a complete evaluation of affected person-suggested recovery across domains inclusive of physical comfort, emotional nation, mental aid, and ache.

Key Findings

The take a look at suggested several vital institutions:

- **Increased Analgesic Use:** Patients with higher APAIS scores required notably more postoperative analgesics, indicating more pain severity or lower ache tolerance doubtlessly mediated via anxiety-associated hypersensitivity.
- **Higher Pain Intensity in PACU:** High preoperative anxiety ranges correlated with extended VAS ache rankings inside the Post-Anaesthesia Care Unit (PACU), suggesting that traumatic sufferers may additionally experience extra excessive or distressing ache right away after surgical operation.
- **Lower Quality of Recovery:** Participants with extended preoperative anxiety had notably decrease QoR-15 rankings, reflecting diminished basic postoperative recovery. This covered more nausea, discomfort, and emotional distress.
- **Reduced Patient Satisfaction:** Notably, sufferers with high tension pronounced decrease worldwide pleasure with their surgical enjoy, underscoring the effect of mental properly-being on perceived healthcare great.

Theoretical and Clinical Implications:

The findings of Anderson et al. (2022) aid a developing body of literature that positions psychological popularity as an impartial and modifiable predictor of surgical results. From a theoretical standpoint, this aligns with the biopsychosocial model of ache, which posits that psychological elements which includes anxiety and despair can amplify ache notion thru cognitive-emotional pathways and neurobiological mechanisms (e.g., improved sympathetic arousal, altered pain modulation).

Clinically, the examine underscores the need of routine psychological screening as part of preoperative assessment protocols. Interventions inclusive of preoperative counselling, cognitive-behavioural therapy (CBT), guided imagery, relaxation techniques, and affected person schooling had been counselled in different studies as powerful means of reducing tension and improving surgical results. By identifying excessive-risk individuals through equipment like the APAIS, clinicians can implement targeted tension-reduction techniques to beautify patient restoration trajectories.

Conclusion:
In end, the look at through Anderson et al. (2022) presents compelling proof that preoperative anxiety isn't always simply a temporary emotional kingdom but a clinically huge predictor of postoperative pain and recovery pleasant.

Incorporating psychological opinions and interventions into surgical care pathways may additionally consequently be essential in optimizing affected person consequences and pride. Future studies need to discover the efficacy of particular tension-reducing interventions and verify their value-effectiveness in diverse surgical populations.

2. Correlation between Preoperative Anxiety and Postoperative Pain Intensity
An increasing frame of literature in surgical and perioperative care has identified the profound impact of psychological factors—in particular anxiety— on postoperative results. Among those, preoperative tension has been always related to improved postoperative ache, not on time recuperation, and better aid utilization. The physiological and behavioural mechanisms underlying this affiliation continue to be explored via scientific and experimental studies.

A substantial contribution to this place comes from Gorsy et al. (2020), who carried out a medical trial listed on PubMed specializing in sufferers undergoing overall hip replacement surgical operation. Their investigation aimed to delineate the connection between tension experienced previous to surgical treatment and the depth of postoperative pain, with a unique emphasis at the physiological mechanisms and scientific results of this relationship.

Methodological Framework
In this observe, the researchers utilized the State-Trait Anxiety Inventory (STAI)—a well-established psychometric tool designed to differentiate among nation tension (brief, situational fear or nervousness) and trait tension (an extra enduring tendency in the direction of anxiety). By categorizing sufferers based on their STAI rankings, Gorsy et al. were able to assess the have an impact on of each immediately and inherent tension tendencies on postoperative ache and healing parameters.

Key Findings and Clinical Implications
The have a look at revealed numerous statistically huge effects that emphasize the deleterious position of heightened state anxiety on publish-surgical restoration.

- **Elevated Pain Scores:** Patients with high nation tension pronounced notably better postoperative ache scores, as measured by means of the Numerical Rating Scale (NRS). This aligns with present theories that mental distress amplifies pain perception through crucial sensitization mechanisms.
- **Increased Analgesic Consumption:** Anxious sufferers required greater portions of opioid analgesics, indicating a better burden of ache management and ability dangers associated with opioid-related outcomes of care.

- **Slower Bodily Recovery:** Changed healing via behind schedule ambulation submission-surgical procedure and prolonged hospitalization, each of which contribute to extended healthcare expense and danger of postoperative headaches (e.g., untronbosis, contamination).

Mechanistic Insights: Neuroendocrine Pathways
Gorsy et al. contextualized their findings inside the framework of strain body structure, specifically the function of the hypothalamic-pituitary-adrenal (HPA) axis. Anxiety, they referred to, turns on the HPA Axis, leading to the discharge of cortisol and catecholamines inclusive of adrenaline and noradrenaline.

These pressure biomarkers heightened alertness and put together the frame for perceived threats but additionally have coincidental results in surgical contexts.

- **Increased Cortisol Levels:** Prolonged cortisol elevation can delay wound recovery, suppress immune feature, and exacerbate inflammatory responses.
- **Nociceptive Sensitization:** Elevated catecholamines and strain hormones sensitize pain pathways, reducing pain thresholds and leading to hyperalgesia (increased pain sensitivity) and allodynia (ache in reaction to commonly non-painful stimuli).

These neurobiological processes underscore the bidirectional interplay among mental states and bodily signs, reinforcing the want for integrative perioperative care.

Broader Implications and Future Directions
The findings of Gorsy et al. (2020) not only validate the position of preoperative psychological assessment but additionally argue for the incorporation of pre-emptive tension-management interventions in surgical protocols. Strategies inclusive of preoperative counselling, rest schooling, cognitive-behavioural remedy (CBT), and pharmacologic anxiolytics may additionally mitigate pressure-precipitated neuroendocrine responses, thereby improving pain results and accelerating recovery.

Moreover, the look at serves as a cautionary reminder that psychological misery isn't mitigated by anaesthesia alone. Emotional and cognitive elements persist beyond induction and influence healing trajectories, suggesting that surgical achievement cannot be evaluated entirely on the idea of physical or technical consequences.

Conclusion
In conclusion, Gorsy et al. (2020) offer compelling clinical evidence linking preoperative nation anxiety to increased postoperative ache intensity, more analgesic requirements, and not on time functional restoration in patients present process hip arthroplasty. These findings spotlight the significance of addressing psychological factors not as peripheral worries but as crucial additives of perioperative care. Future research ought to purpose to increase standardized protocols for tension screening and management in surgical populations, with the aim of improving each quick- and lengthy-time period results.

3. The Interplay of Sleep Disruption, Pain Modulation, and Anxiety in Postoperative Recovery:
Pain, anxiety, and sleep are deeply interconnected phenomena that critically impact each other, mainly within the perioperative context. Emerging research indicates that this triad paperwork a self-reinforcing cycle: anxiety can disrupt sleep, poor sleep can heighten ache sensitivity, and pain can further disturb sleep, thereby impairing recovery. Understanding the

underlying mechanisms of this interaction is essential for enhancing postoperative results and enriching the fine of patient care.
A splendid contribution to this discipline is the experimental study by using Stromel, Scheder and Lautenbacher (2022), which systematically examined how general sleep deprivation (TSD) and next healing sleep have effect on ache modulation mechanisms. Their work adds an important size to the information of the way sleep — a regularly-neglected factor in surgical environments — mediates the tension-ache relationship.

Experimental Framework and Pain Measurement
The have a look at worried healthy human members who have been subjected to at least one night time of overall sleep deprivation, accompanied via a night of restoration sleep. Pain sensitivity turned into assessed using numerous well- installed physiological ache measures:

- **Pressure Pain Threshold (PPT):** A degree of pain sensitivity reflecting peripheral and central pain processing.
- **Temporal Summation of Pain (TSP):** The improved notion of ache during repetitive stimuli, representing spinal wire excitability and imperative sensitization.
- **Conditioned Pain Modulation (CPM):** A degree of descending inhibitory pain pathways, reflecting the body's ability to internally suppress ache (additionally known as the "pain inhibits ache" mechanism).

Key Findings
The look at produced numerous tremendous findings:

- **Decreased Pain Thresholds after TSD:** Participants displayed appreciably decreased PPTs after a night of sleep deprivation, indicating heightened ache sensitivity.
- **Unchanged TSP and CPM Immediately Post-TSD:** Contrary to expectancies, no extensive modifications were found in TSP or CPM at once following TSD, suggesting that valuable ache modulation systems might not be acutely affected by a single night time of sleep loss in healthful people.
- **Partial Reversal with Recovery Sleep:** While PPTs returned to baseline after recuperation sleep, CPM values remained impaired, implying that although a few sensory restoration took place, endogenous ache inhibitory capability remained dysfunctional even after sleep recovery.

Implications for Anxiety and Postoperative Recovery
The relevance of these findings extends past experimental settings. In actual-international scientific environments—particularly postoperative care units—tension and environmental factors consisting of noise, immobility, and unexpected environment frequently cause fragmented

or insufficient sleep. When taken into consideration along the
examiner's outcomes, this creates a compelling theoretical framework:

- **Anxiety → Sleep Disruption:** Anxiety is thought to reduce sleep first- class and increase middle of the night awakenings, mainly in the postoperative context.
- **Sleep Disruption → Pain Sensitization:** As tested, even brief-time period sleep loss can lower ache thresholds and impair the frame's natural ache law mechanisms.
- **Heightened Pain → More Anxiety and Poorer Sleep:** The ensuing ache in addition perpetuates tension and interferes with restorative sleep, establishing a vicious comments loop.

Moreover, the unfinished restoration of principal pain inhibition even after one night time of recuperative sleep shows that short-time period interventions can be inadequate to interrupt this cycle. Prolonged or repeated sleep disturbances may additionally consequently have cumulative and compounding consequences on postoperative ache and healing.

Clinical Significance and Future Directions

These findings underscore the need of adopting a holistic method to perioperative care—one which now not best manages pain pharmacologically however also addresses sleep pleasant and mental nicely-being. Interventions including:

- Anxiolytic premedication, Environmental adjustments to sell sleep hygiene in health facility settings, Cognitive-behavioural techniques concentrated on sleep and tension, and Non-pharmacologic ache modulation techniques (e.g., mindfulness, rest remedy) may additionally prove beneficial in optimizing affected person results.
- Furthermore, the impaired CPM responses after TSD reflect a weakened endogenous analgesic device, highlighting that even quick durations of sleep loss can have lasting consequences on ache modulation ability.
- Future research must look into the lengthy-time period implications of sleep disruption in medical populations and discover multimodal interventions that simultaneously goal anxiety, sleep, and pain.

Conclusion

In summary, the paintings of Stroemel-Scheder and Lautenbacher (2022) reveals that sleep plays a crucial position in regulating pain notion and healing. Their findings point to a bidirectional dating between tension- precipitated sleep disruption and adjusted ache modulation, wherein short-term sleep loss impairs the frame's natural capability to manage pain—even if ache thresholds normalize after recuperation sleep. For postoperative care, this highlights the pressing want to view sleep and psychological status as integral components of pain management and recovery strategies.

4. Psychological Interventions in Pain Management

Pain, in particular in postoperative and continual contexts, is increasingly more understood no longer simply as a physical phenomenon, but as a complicated biopsychosocial experience formed via biological, psychological, and social factors. This shift from a biomedical model— which emphasizes physiological mechanisms on my own—to a biopsychosocial version has significantly accelerated the scope of effective pain control. Psychological interventions, in particular Cognitive Behavioural Therapy (CBT), have emerged as evidence-primarily based gear in alleviating each the subjective revel in of ache and its useful outcomes.

A comprehensive overview by using Karman et al. (2015), published inside the *Indian Journal of Psychology and Education*, synthesizes existing studies and scientific practices associated with psychological strategies to ache control, especially in acute, continual, and perioperative settings. Their evaluation offers compelling support for the integration of mental care inside trendy ache treatment protocols.

From Biomedical to Biopsychosocial: A Paradigm Shift

Karman et al. define the constraints of the biomedical version, which historically attributes pain completely to tissue harm, infection, or different bodily causes. This model regularly

neglects the character's psychological and emotional responses, which can dramatically influence ache belief and coping.

In assessment, the biopsychosocial model posits that cognitive appraisals, emotional states (together with worry and tension), social context, and behavioural responses all modulate the intensity, length, and that means of pain. This model as a consequence affords an extra comprehensive framework for designing multidimensional pain control techniques, with psychological interventions as primary components.

Cognitive Behavioural Therapy (CBT) in Pain Management

One of the most verified mental modalities mentioned by way of the authors is Cognitive Behavioural Therapy (CBT). CBT works through figuring out and modifying maladaptive concept patterns and behaviours that make contributions to heightened pain perception and distress.

Key components of CBT as outlined by Karman et al. consist of:

- **Cognitive restructuring:** Helping patients identify and challenge catastrophic mind which include "I'll never get higher" or "This ache approach something is critically wrong," which frequently increase misery and boom useful incapacity.
- **Relaxation education:** Techniques such as revolutionary muscle relaxation, guided imagery, and diaphragmatic breathing are used to lessen physiological arousal and mitigate the body's pressure response, thereby modulating pain sensitivity.
- **Sleep hygiene and behavioural activation:** Addressing insomnia and improving interest ranges assist lessen fatigue and depressive symptoms, which often co-arise with chronic pain situations.
- **Goal-placing and pacing strategies**: These assist patient's re-have interaction with meaningful activities without exacerbating ache, improving each bodily and emotional functioning.

Pain Catastrophizing and its Clinical Relevance

Karman et al Emphasize ache catastrophizing as an important cognitive distortion in many ache sufferers. Defined as an exaggerated terrible intellectual set delivered to undergo at some point of real or anticipated painful enjoy, catastrophizing has been related to:

- Increased ache intensity.
- Greater emotional misery.
- Poorer treatment results
- Elevated reliance on analgesics and medical services

By addressing these maladaptive beliefs thru CBT, sufferers discover ways to broaden extra adaptive coping strategies, which improve ache tolerance and reduce.

Applications inside the Perioperative Period

Importantly, the authors enlarge the relevance of mental interventions to preoperative and postoperative care, suggesting that such interventions aren't restrained to persistent pain management. They advocate several evidence- primarily based psychological strategies in the perioperative context:

- Preoperative counselling: Helps sufferers set sensible expectancies, recognize ache trajectories and decrease tension.
- Pain education classes: These inform sufferers about the character of ache and the way it is able to be managed psychologically, thereby enhancing a feel of control and reducing fear related amplification of pain.

- Stress inoculation training (SIT): A CBT primarily based method that equips sufferers with coping abilities earlier than encountering stressors inclusive of surgical operation or rehabilitation, thereby improving resilience and restoration outcomes.

Long-Term Benefits and Integration with Medical Care

Karman et al. Also spotlight the sustainability of mental interventions, noting their lengthy-term benefits in:

- Reducing pain depth.
- Enhancing temper and reducing depressive signs and symptoms
- Increasing adherence to physiotherapy and rehabilitation regimens.
- Decreasing healthcare utilization and improving value-effectiveness of treatment

Their overview advocates for systematic integration of psychological offerings into multidisciplinary ache clinics and surgical pathways. Such integration guarantees that sufferers get hold of now not only pharmacological and surgical care however also cognitive and emotional guide at some stage in their healing procedure.The evaluate by means of Karman et al. (2015) substantiates the important function of mental interventions especially CBT in contemporary ache control. By addressing maladaptive thoughts, lowering tension, improving sleep, and enhancing behavioural engagement, these interventions foster a more holistic and powerful technique to pain care. In the context of postoperative healing, incorporating preoperative counselling, pain education, and stress reduction techniques may not only alleviate ache but additionally boost up functional restoration and improve basic affected person pleasure. Future research have to hold to refine those interventions for particular surgical populations and discover their integration into habitual preoperative care.

Synthesis and Theoretical Framework

The cumulative evidence from this five research converges on a clear narrative: post-surgical anxiety isn't always an isolated emotional experience however a systemic aspect that at once and indirectly affects pain perception and physical recuperation. Anxiety primes the frame's physiological stress response, sensitizes pain pathways, and disrupts sleep-all of which put off recovery and accentuate struggling. Moreover, the inclusion of intellectual health screening, schooling, and behavioural therapy now not simplest addresses anxiety however also improves surgical effects by means of lowering ache and facilitating faster recovery. The interdependence of hysteria, ache, and restoration can be theoretically understood the usage of the worry-avoidance version and biopsychosocial frameworks, which posit that maladaptive emotional responses to pain (e.g., fear, tension) can worsen incapacity and prolong healing.

Conclusion

In summary, the prevailing literature offers compelling proof that put up- surgical anxiety considerably correlates with heightened ache perception and behind schedule recuperation. Psychological interventions, while applied early in the surgical care continuum, can mitigate those results, main to better pain manage, decreased hospitalization, and stepped forward normal effects.

Future studies should cognizance on standardized screening protocols for tension and the integration of tailor-made mental help into routine surgical practice.

RESEARCH METHODOLOGY

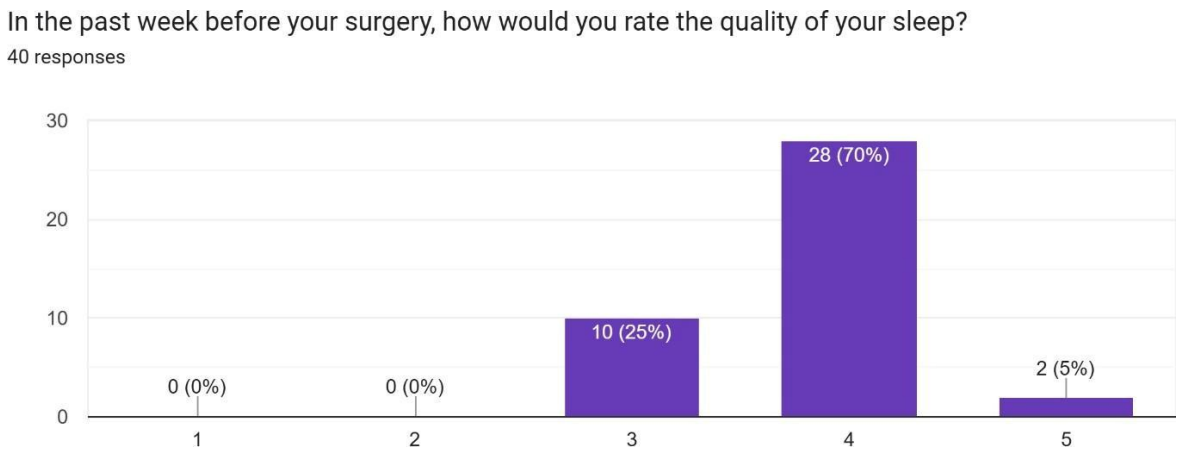
This research examined patients who have undergone various surgical procedures, including Total Knee Replacement (TKR), Total Hip Replacement (THR) & Tahoe Upicondylar Knee System (TUKS) and other surgical procedures like implants. Data collection was conducted through observations made during postoperative counselling sessions and semi-structured interviews. The study encompassed a total number of 40 participants. Two questionnaires consisting of 16 questions each gathering preoperative and postoperative data respectively was administered via Google Forms to gather all the responses.

The objective of this study was to analyse and interpret and draw "A Comparative study of Preoperative and Postoperative Psychological states in Surgical Patients". Data was collected through an indirect approach. The inquiries addressed multiple facets of preoperative data including anxiety, frustration and sleep irregularity pre surgery and postoperative data encompassing social support, feelings of sadness, experiences of helplessness, anxiety or stress about recovery, depressive episodes, functional capabilities and coping strategies.

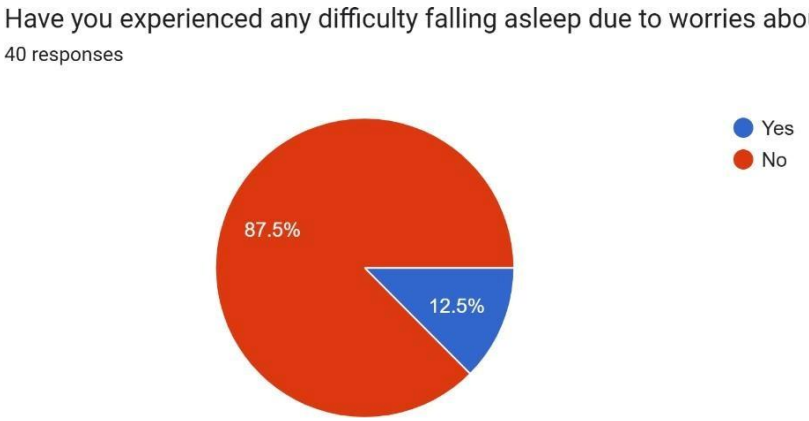
The interviews were carried out in a manner that fostered a rapport, enabling participants to engage in a more informal and candid dialogue. The questions focused on various dimensions, including emotional challenges, coping strategies employed in response to changes, and any positive or negative interpersonal interactions that may have influenced their overall mental wellbeing.

RESULTS

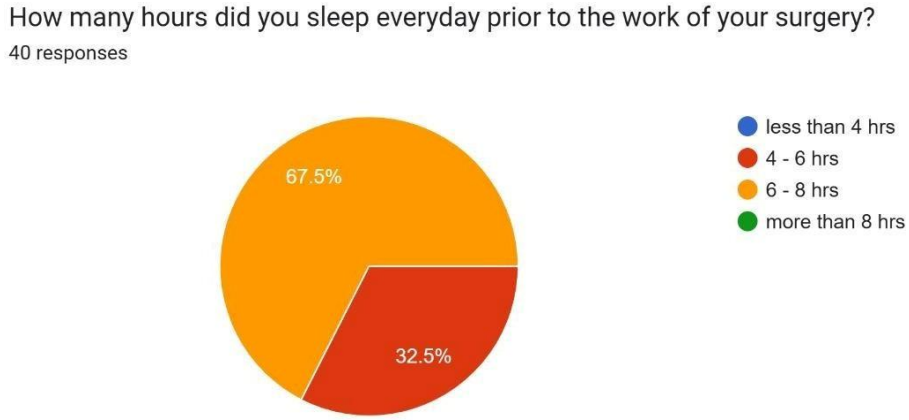
(PRE SURGERY)



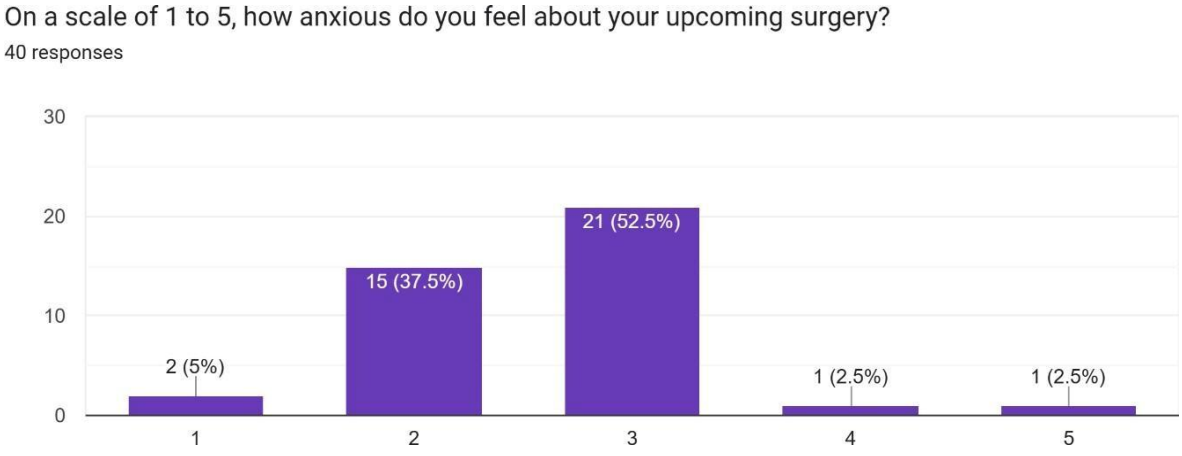
The bar graph titled, "In the past week before surgery, how would you rate the quality of your sleep?" suggests the distribution of pre surgical sleep among patients. Out of 40 contributors, 28(70%) stated '4' that suggests good quality sleep pre surgery, 10(25%) stated '3' that suggests an average quality of sleep and 2(5%) have stated '5' suggesting a very good quality sleep pre surgery.



The pie chart titled, "Have you experienced any difficulty falling asleep due to worries about surgery?" suggests the distribution of pre surgical difficulty in falling asleep due to stress. Out of 40 responses majority (87.5%) selected 'No' expressing no anxiety or stress pre surgery and the rest (12.5%) selected 'Yes' expressing worries experienced pre surgery.

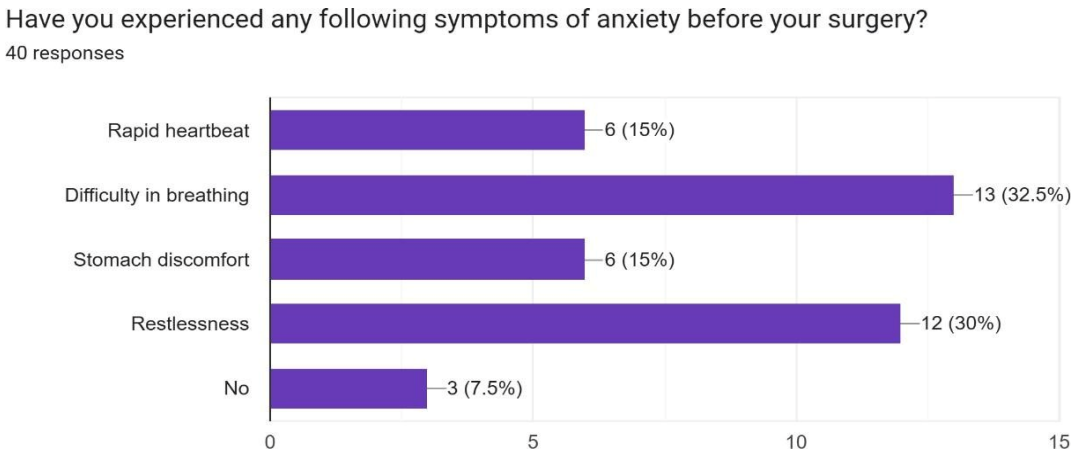


The pie chart titled, "How many hours did you sleep everyday prior to the work of your surgery?" suggests how many hours patients used to sleep pre surgery. Majority (67.5%) have stated '6-8 hrs' of sleep suggesting good amount of sleep among patients pre surgery and the rest (32.5%) stated '4-6hrs' of sleep suggesting an average amount of sleep pre surgery.

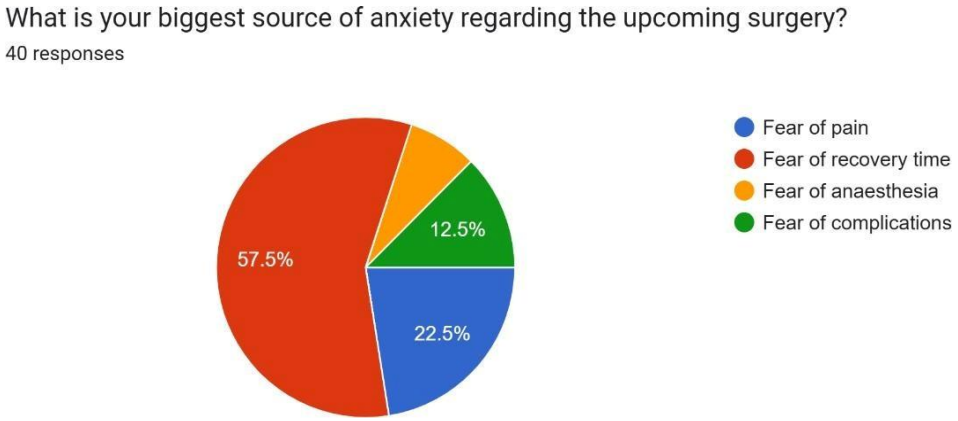


The bar graph titled, "On a scale of 1 to 5, how anxious do you feel about your upcoming surgery?" suggests the level of anxiety felt by patients pre surgery. 21(52.5%) stated '3'

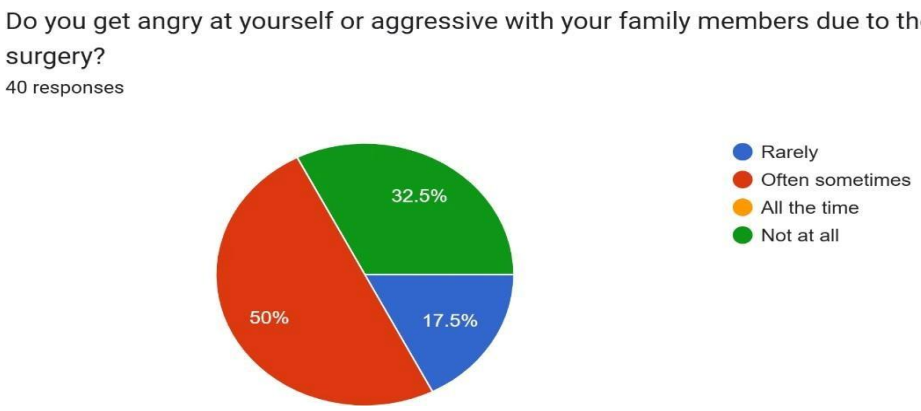
depicting an average level of anxiety, 15(37.5%) stated '2' depicting a low level of anxiety, 2(5%) stated '1' depicting mildest anxiety, 1(2.5%) stated '4' depicting a high level of anxiety and the last 1(2.5%) stated '5' suggesting a very high level of anxiety.



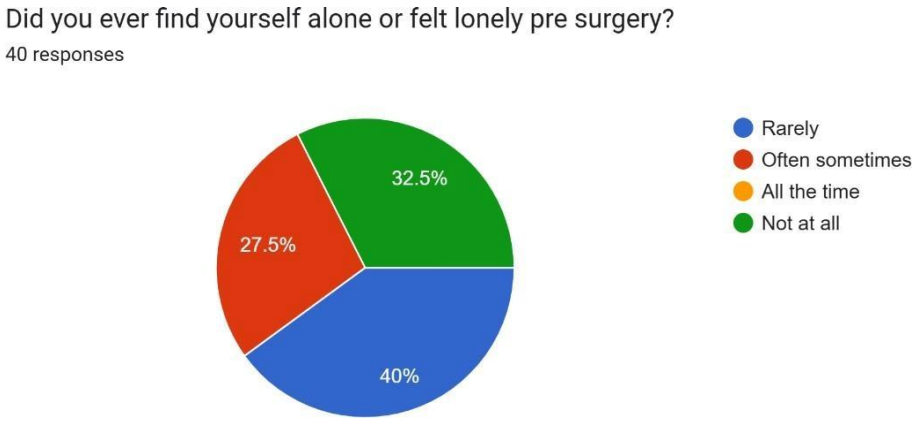
The bar graph titled, "Have you experienced any following symptoms of anxiety before your surgery?" denotes the symptoms through which patients felt anxious pre surgery. 13(32.5%) felt 'difficulty in breathing', 12(30%) felt 'restlessness', 6(15%) experienced, 'rapid heartbeat', 6(15%) experienced, 'stomach discomfort' and the last 3(7.5%) felt no such symptoms of anxiety.



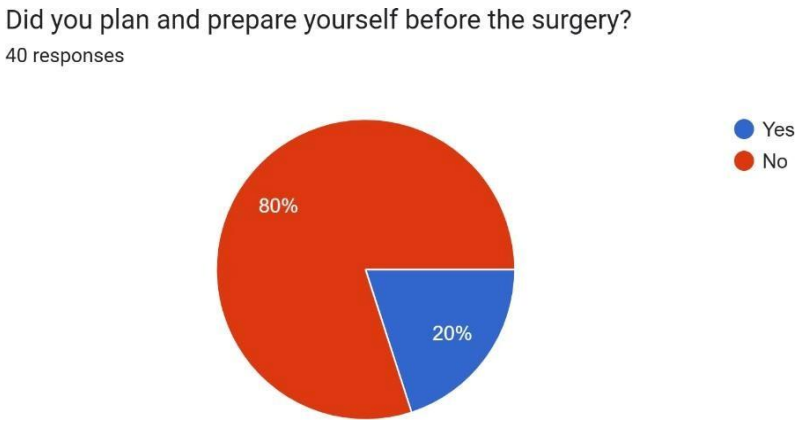
The pie chart titled, "What is your biggest source of anxiety regarding the upcoming surgery?" suggests the fears patients felt pre surgery which became the biggest source of anxiety. 57.5% had the 'fear of recovery time', 22.5% had the 'fear of pain', 12.5% had the 'fear of complications' and the rest 7.5% had the 'fear of anaesthesia'.



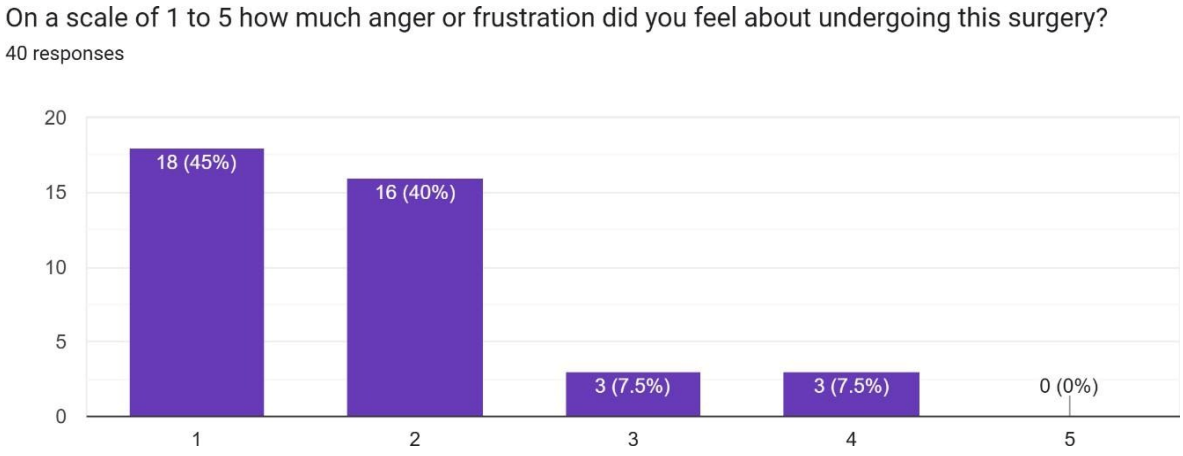
The pie chart titled, "Do you get angry at yourself or aggressive with your family members due to the frustration of surgery?" suggests the level of frustration patients undergo with their family members pre surgery. 50% 'often sometimes' felt aggressive, 32.5% felt 'no' aggression, and 17.5% 'rarely' felt aggressive.



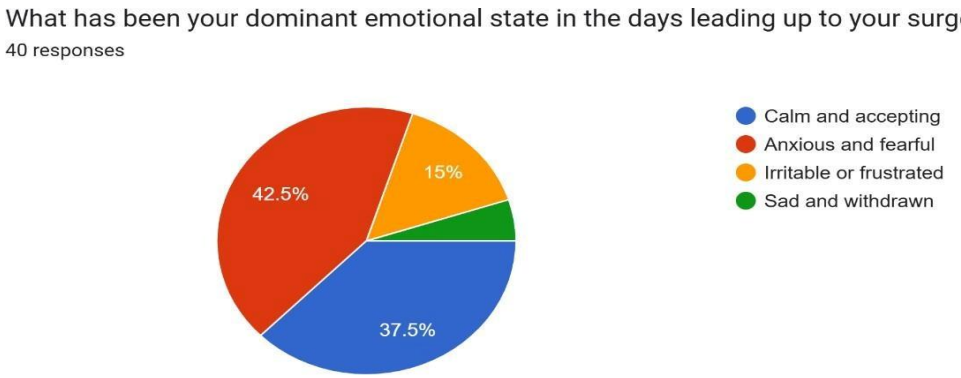
The pie chart titled, "Did you ever find yourself alone or felt lonely pre surgery?" examines if there was any feeling of loneliness among patients pre surgery. 40% 'rarely' felt lonely, 32.5% 'didn't' feel lonely at all, 27.5% 'often' felt lonely.



The pie chart titled, "Did you plan and prepare yourself before the surgery?" suggests if the patients prepared themselves or not before the surgery. 80% of the patients didn't prepare themselves pre surgery and 20% of them did prepare themselves pre surgery.

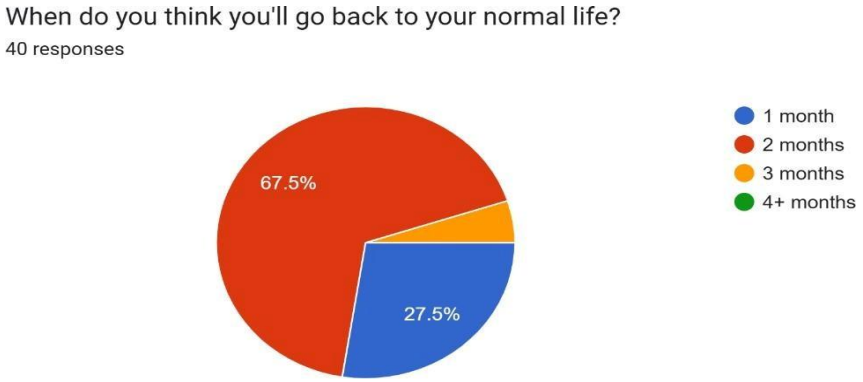


The bar graph titled, “On a scale of 1 to 5 how much anger or frustration did you feel about undergoing this surgery?” denotes the level of frustration patients feel while undergoing this surgery. 18(45%) stated ‘1’ which meant they felt mild frustration, 16(40%) stated ‘2’ which meant they felt moderate level of frustration, 3(7.5%) stated, ‘3’ denoting an average level of frustration and 3(7.5%) stated ‘4’ denoting more than average level of frustration.

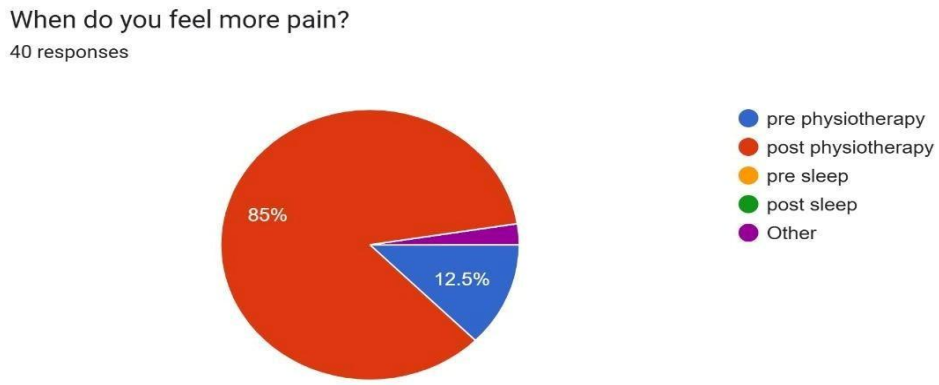


The pie chart titled, “What has been your dominant emotional state in the days leading up to your surgery?” suggests what emotions patients have gone through in the days leading up to your surgery. 42.5% have felt ‘anxious and fearful’, 37.5% have felt ‘calm and accepting’, 15% have felt ‘irritable or frustrated’, and the rest 5% have felt ‘sad and withdrawn’.

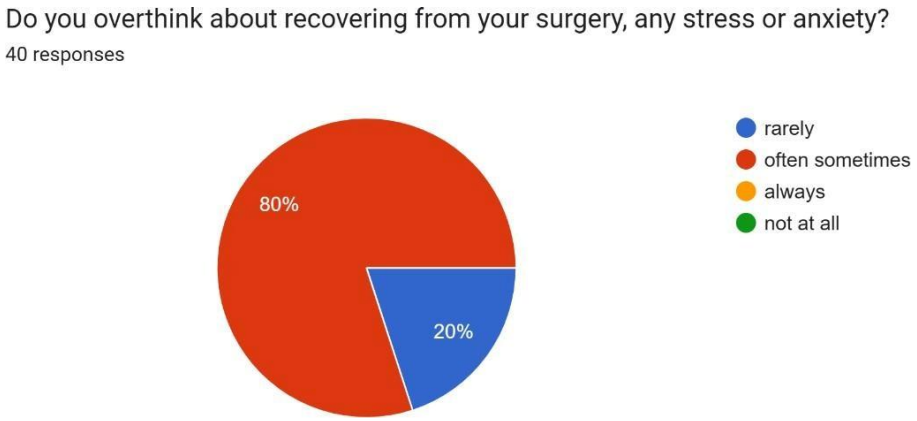
(POST SURGERY)



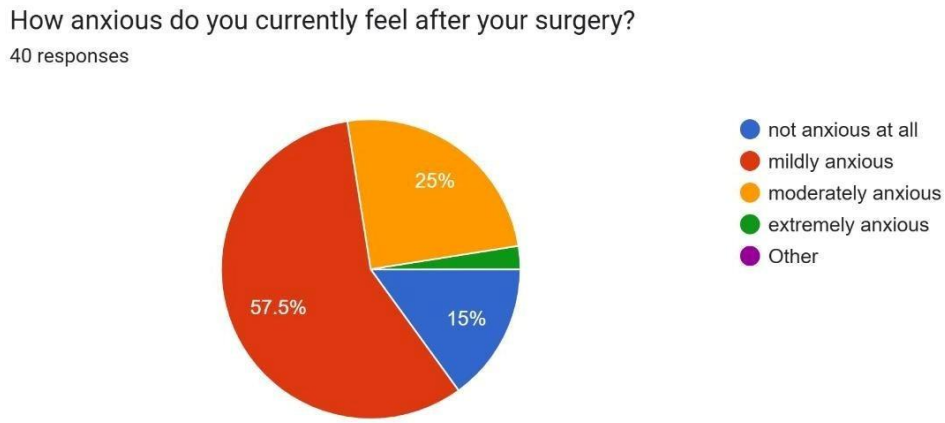
The pie chart titled, “When do you think you’ll go back to your normal life?” suggests when patients think they will be able to go back to their normal life post surgery. 67.5% patients think it’ll take them ‘2 months’, 27.5% patients think it’ll take them ‘1 month’, and rest 5% think it’ll take them ‘3 months’ to get back to their normal life.



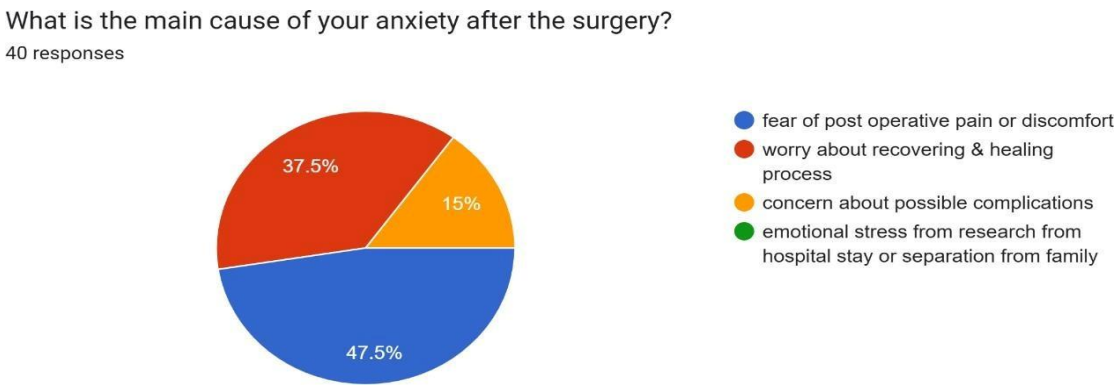
The pie chart titled, "When do you feel more pain?" suggests when do patients feel more pain from the given options. 85% of the patients feel more pain 'post physiotheraphy', 12.5% patients feel more pain 'pre physiotheraphy ', and 2.5% of the patients felt more pain in 'other times'



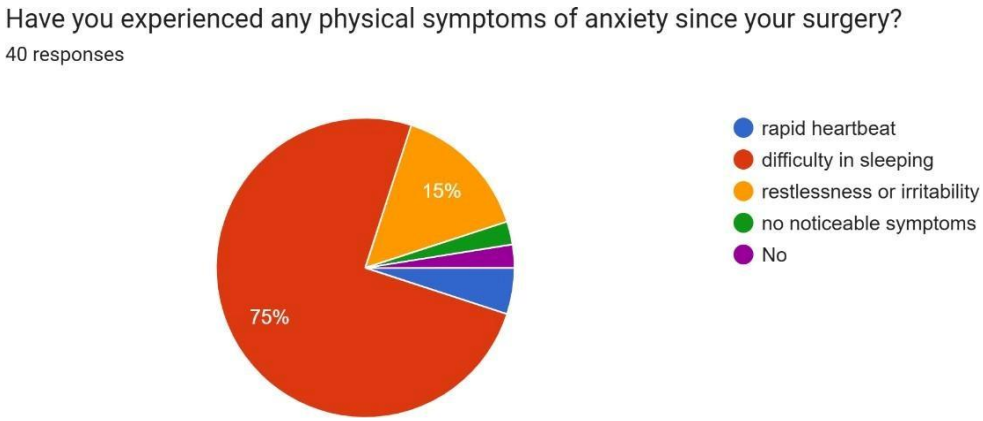
The pie chart titled, "Do you overthink about recovering from your surgery, any stress or anxiety?" suggests if patients overthink or feel stressful about recovering from the surgery. 80% patients 'often sometimes' feel anxious or get worried about thinking of their recovery and 20% patients 'rarely' overthink about their recovery.



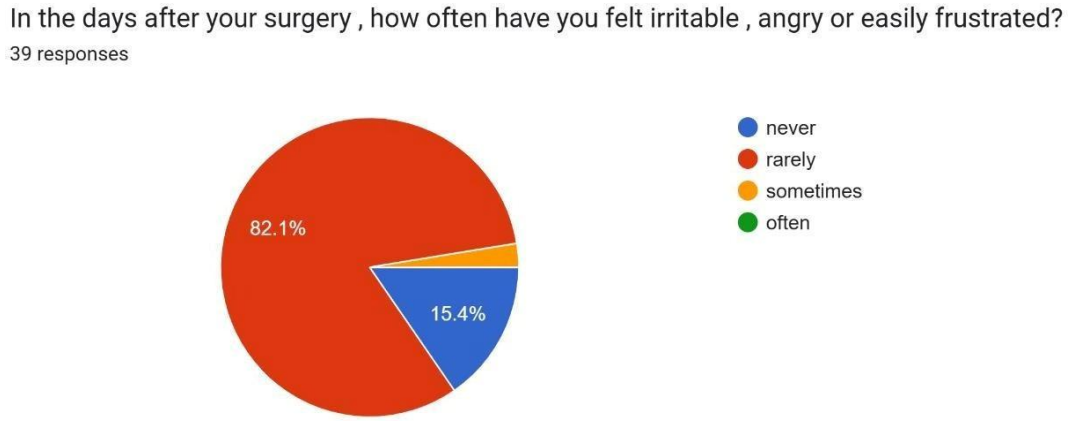
The pie chart titled, "How anxious do you currently feel after your surgery?" suggests the levels of anxiety patients feel post surgery. 57.5% patients were 'mildly anxious', 25% patients were 'moderately anxious', 15% patients were 'not anxious at all', and 2.5% were 'extremely anxious'.



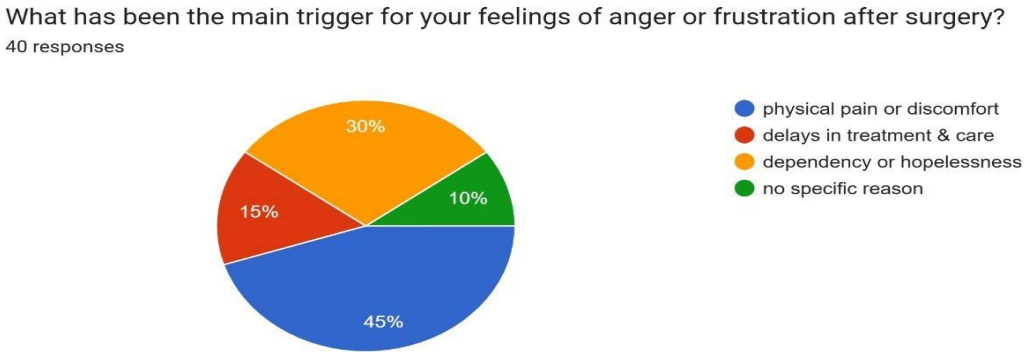
The pie chart titled, "What is the main cause of your anxiety after the surgery?" suggests the ways in which ways patients have felt anxious post surgery. 47.5% patients have felt the 'fear of post operative pain or discomfort', 37.5% have 'worry about recovering & healing process', 15% had 'concern about possible complications'.



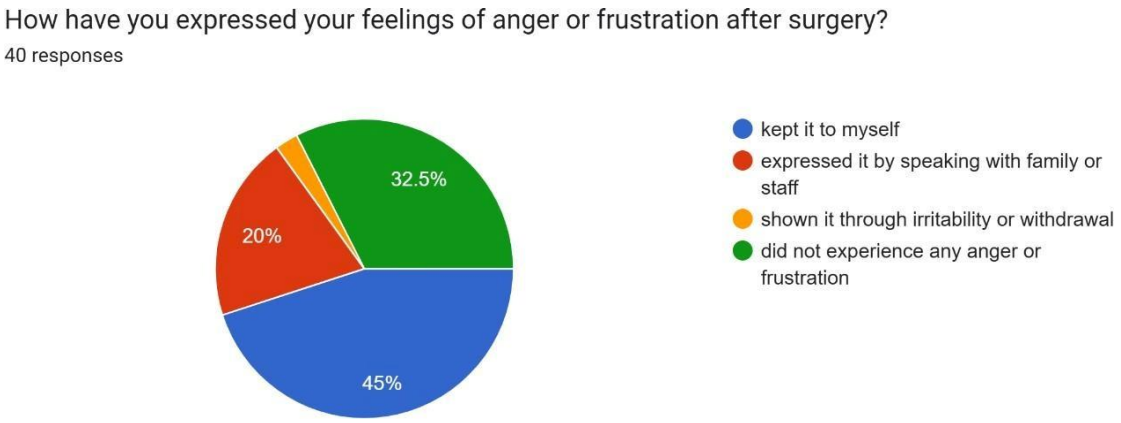
The pie chart titled, "Have you experienced any physical symptoms of anxiety since your surgery?" suggests if patients have felt any form of physical symptoms of anxiety post their surgery. 75% patients had 'difficulty in sleeping', 15% patients had 'restlessness or irritability', 5% patients had 'rapid heartbeat', 2.5% had 'no noticeable symptoms' and 2.5% had 'no' such symptoms.



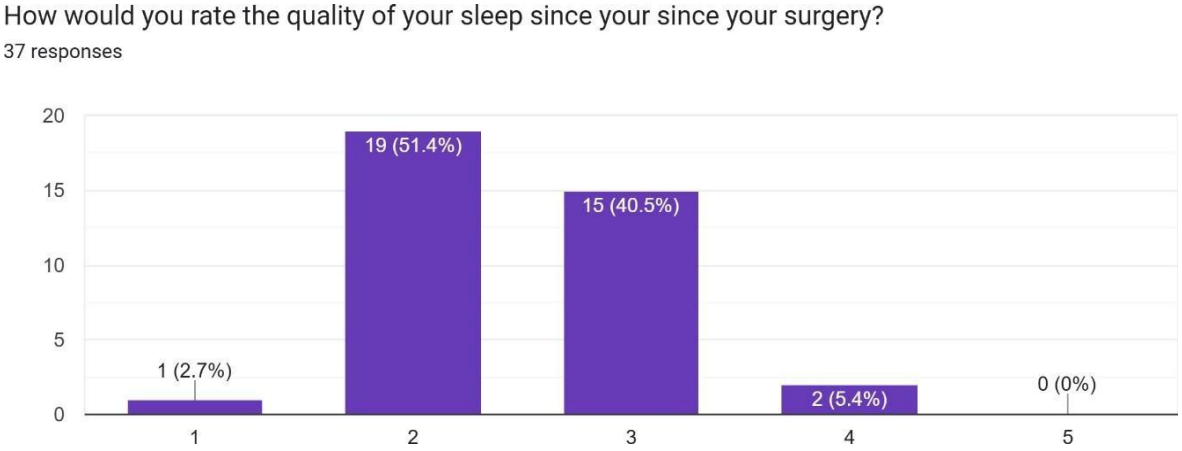
The pie chart titled, "In the days after your surgery, how often have you felt irritable, angry or easily frustrated?" suggests how often patients have felt irritated or frustrated after their surgery. 82.1% have 'rarely' felt irritated or frustrated, 15.4% have 'never' felt frustrated and 2.5% have 'sometimes' felt angry or easily frustrated.



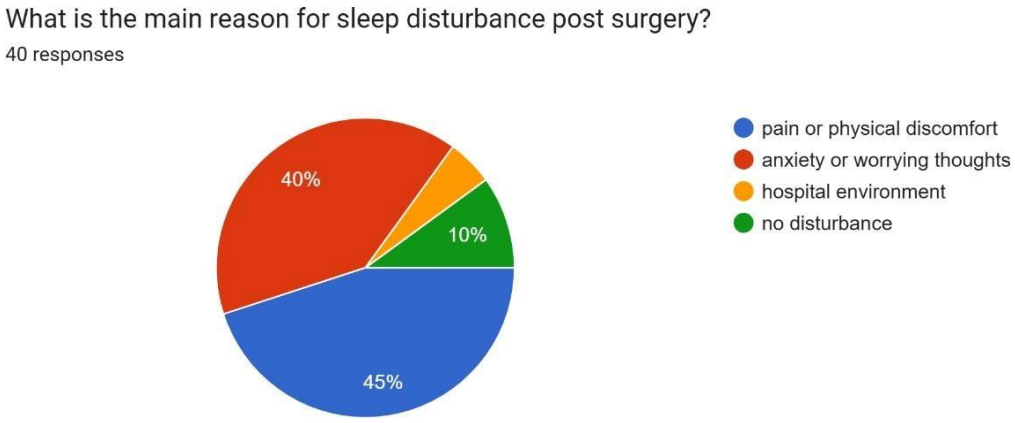
The pie chart titled, "What has been the major trigger for your feelings of anger or frustration after surgery?" suggests what have been the triggers for anger or frustration after surgery for the patients. 45% patients felt 'physical pain or discomfort', 30% patients felt 'dependency or hopelessness', 15% have felt 'delays in treatment & care' and 10% patients had 'no specific reason'.



The pie chart titled, "How have you expressed your feelings of anger or frustration after surgery?" suggests the ways in which patients have experienced anger or frustration after surgery. 45% patients have stated 'kept it to myself' which means they have kept their feelings of anger or frustration to themselves, 32.5% have stated 'did not experience any anger or frustration' which means they haven't experienced anything, 20% stated 'expressed it by speaking with family or staff' which means they have shared it with their family members, and 1.5% stated 'shown it through irritability or withdrawal' which means they have expressed their feelings of irritation and frustration post surgery.



The bar graph titled, "How would you rate the quality of your sleep since your surgery?" suggests the quality of sleep of patients post surgery. 19(51.4%) have selected '2' suggesting poor quality of sleep, 15(40.5%) have selected '3' suggesting moderate quality of sleep, 2(5.4%) have selected '4' suggesting good quality of sleep and 1(2.7%) has selected '1' suggesting a very poor quality of sleep.



The pie chart titled, "What is the main reason for sleep disturbance post surgery?" suggests the possible reasons of sleep disturbance among patients post surgery. 45% patients had 'pain or physical discomfort' post their surgery, 40% patients had 'anxiety or worrying thoughts', 10% had 'no disturbance' and 5% had issues with 'hospital environment'.

CONCLUSION

This research provides a solid investigation of the comparison between preoperative and postoperative anxiety, pain experience, and recovery results, exemplifying how psychological experiences are heavily interrelated with bodily healing processes. Based on both primary evidence and rich literature, the results substantiate the argument that anxiety is not an off-centre issue in surgical recovery but a focal variable with quantifiable impacts for patients' physical results.

The findings of the survey show that even mild pre-surgical anxiety is able to cause heightened post-operative perception of pain, which subsequently lengthens recovery times and reduces quality of life in general. Patients with greater anxiety also demonstrated disturbed sleep, bodily symptoms of distress, and fear-avoidance behaviours like hesitancy to move owing to expected pain. These behavioural reactions tended to lead to late mobilization, longer hospitalizations, and lower confidence in recovering physical function.

Closer examination of patient reactions emphasized the role of understandable, compassionate communication by health care providers. Those participants who perceived that they had only "somewhat clear" information regarding their operation and post-operative care also reported higher levels of anxiety and dissatisfaction. This indicates that inadequate patient education and preoperative counselling could inadvertently increase emotional distress and contribute to negative surgical outcomes.

The literature reviewed also supports these observations with a theoretical basis in the biopsychosocial model and fear-avoidance models. Various studies illustrate how fear triggers neuroendocrine stress responses, elevates cortisol levels, and sensitizes nociceptive pathways—all of which can amplify the perception of pain and inhibit immune response, slowing tissue repair. Sleep deprivation, which is also caused by anxiety, compounds endogenous pain control mechanisms, further causing a vicious cycle wherein pain, anxiety, and delayed healing sustain each other.

In addition, the study identifies the effectiveness of psychological treatments— cognitive behavioural therapy (CBT), relaxation training, stress inoculation, and preoperative structured education—to alleviate anxiety and enhance post- surgery outcomes. Individuals

who received Mental health interventions during the recovery period reported enhanced coping skills, decreased pain perception, and an improved overall recovery experience.

One strength of this research is its integrative design, marrying empirical patient data with theory to shed light on the complex dynamics of surgical recovery. It also highlights practical avenues for improvement in clinical settings, such as routine psychological screening, better communication strategies, and integrated mental health services within surgical care pathways.

Ultimately, this study confirms that the best recovery from surgery is not just the result of good medical and surgical care—it is a comprehensive approach that addresses and respects the psychological aspects of healing. By focusing on mental health in conjunction with physical rehabilitation, healthcare systems can not only increase patient satisfaction but also gain more effective recoveries, eliminate postoperative complications, and lower overall health costs.

Future studies should focus on streamlining screening measures for detecting high-risk patients and assessing long-term gain from early psychological intervention across a wide range of surgical groups. Further, investigations into interdisciplinary models of care—where surgeons, anaesthesiologists, psychologists, and physiotherapists interact in perioperative planning—could provide new insights into the development of resilient patient-centred recovery paths.

Suggestions

Here's a concise version of health-focused suggestions based on your research on Post-Surgical Anxiety and its Correlation with Pain Perception and Recovery:

1. **Preoperative Counselling:** Offer short sessions to explain the procedure, recovery expectations, and pain management to reduce fear and uncertainty.
2. **Include Mental Health Support in Recovery Plans:** Ensure psychologists or counsellors are accessible during hospital stays to manage anxiety and support coping.
3. **Use Relaxation Techniques:** Introduce deep breathing, progressive muscle relaxation, or guided imagery during pre- and post-op care to lower stress.
4. **Monitor and Improve Sleep Quality:** Address sleep disturbances early, as poor sleep increases pain sensitivity and delays healing.
5. **Pain and Anxiety Co-Management:** Combine medications with non-pharmacological pain relief methods like mindfulness and distraction therapy.
6. **Encourage Early but Safe Mobilization:** Reduce fear-avoidance behaviours with gentle physiotherapy and positive reinforcement.
7. **Educate Patients Clearly and Repeatedly:** Use simple language, visuals, or leaflets to explain pain control and recovery processes.
8. **Follow-up Mental Health Check-ins:** Continue psychological support post-discharge to monitor anxiety, depression, or fear of movement.

REFERENCES

Brandenburg, N., et al. "(939)." *The Journal of Pain*, vol. 8, no. 4, Apr. 2007, p. S85, https://doi.org/10.1016/j.jpain.2007.02.348. Accessed 1 May 2026.

Gelosa, Paolo, et al. "Drug Repurposing in Cardiovascular Diseases: Opportunity or Hopeless Dream?" *Biochemical Pharmacology*, Mar. 2020, p. 113894, https://doi.org/10.1016/j.bcp.2020.113894.

Google form link for post-surgery questionnaire https://docs.google.com/forms/d/e/1FAIpQLSdX6HjIfqZyJ4D18JjF_9fUC-6uMw8LSTAdIQHbFXrFYrsoxA/viewform?usp=dialog

Google form link for pre surgery questionnaire https://docs.google.com/forms/d/e/1FAIpQLSfgvlX8LkQNGYtMkF-66bWnIPzjnFI_e0geMstPVKeHYzK6w/viewform?usp=sharing&ouid=1023 78884225670304556

Kirmani, Mustafa, et al. *Psychological Interventions in Pain Management*. 2015.

Psychological interventions in pain management. (n.d.-b). https://ijip.in/wp-content/uploads/2020/05/B00376V2I32015.pdf

Stroemel-Scheder, Cindy, and Stefan Lautenbacher. "The Effects of Recovery Sleep on Experimental Pain." *The Journal of Pain*, vol. 24, no. 3, 21 Oct. 2022, pp. 490–501, www.sciencedirect.com/science/article/pii/S1526590022004357?via%3Dihub, https://doi.org/10.1016/j.jpain.2022.10.009.

Acknowledgment

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Routh, S. & Pathak, D. (2026). A Comparative Study of Preoperative and Postoperative Psychological States in Surgical Patients. *International Journal of Indian Psychology*, *14*(2)*,* 672-695. DIP:18.01.065.20261402, DOI:10.25215/1402.065