P-ISSN: 2617-9806
E-ISSN: 2617-9814

Impact Factor: RJIF 5.2
www.nursingjournal.net

International Journal of Advance Research in Nursing

Volume 7; Issue 2; Jul-Dec 2024; Page No. 205-209

Received: 08-09-2024
Accepted: 14-10-2024

Indexed Journal
Peer Reviewed Journal

Pre-operative anxiety and sleep quality among the patients admitted in a selected hospital

[1]Lavina Rodrigues, [2]Jiss Merin Ajith, [2]Joylin Elvina Sequeira, [2]Joylin Jasmine Dsouza and [2]Lenisha Lobo

[1]Associate Professor, Department of Mental Health Nursing, Father Muller College of Nursing, Kankanady, Mangalore, Karnataka, India

[2]III BSc Nursing, Father Muller College of Nursing, Kankanady, Mangalore, Karnataka, India

Corresponding Author: Lavina Rodrigues

DOI: https://doi.org/10.33545/nursing.2024.v7.i2.C.420

Abstract

Background: Surgical patients often experience significant preoperative anxiety, which can adversely affect sleep quality, delay healing, and prolong recovery. Understanding the relationship between preoperative anxiety and sleep quality is essential for implementing effective interventions that minimize patient distress and promote recovery.

Methods: A descriptive correlational study was conducted with 120 patients who met the inclusion criteria and were selected through purposive sampling. Data were collected using a baseline demographic proforma, a preoperative anxiety scale, and a preoperative sleep quality scale to assess the relationship between anxiety levels and sleep quality prior to surgery.

Results: Findings indicated that 54.2% of patients reported moderate anxiety, with a mean preoperative anxiety score of 25.11±6.32, representing 52.31% of the possible score. In terms of sleep quality, 66.7% of patients experienced mild sleep disturbances, with a mean sleep quality score of 19.36±6.41, representing 40.33% of the possible score. A weak positive correlation between preoperative anxiety and sleep quality was found (r=0.244, p=0.007), suggesting that increased anxiety is associated with poorer sleep quality.

Conclusion: Healthcare professionals play a critical role in managing preoperative anxiety and improving sleep quality. Educating and training nurses on strategies to reduce patient anxiety and enhance sleep quality may improve patient outcomes. These findings highlight the need for targeted interventions to support preoperative patients in managing anxiety and optimizing recovery.

Keywords: Pre-operative anxiety, sleep quality, surgical patients, patient recovery

Introduction

Health is universally valued and essential for an individual's overall well-being and productivity. The World Health Organization (WHO) describes health as a "state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity," highlighting its holistic nature [1]. In India, health is regarded as a state that enables individuals to enjoy a productive and fulfilling life, with a nation's development closely tied to the health of its people [2]. However, surgery, an increasingly integral part of healthcare, disrupts this equilibrium, often resulting in anxiety and stress, particularly during the preoperative period.

Preoperative anxiety is widely recognized as a significant issue among surgical patients, with up to 72.8% prevalence in some regions [3]. Studies in diverse countries indicate high levels of preoperative anxiety, ranging from 47% to 97% [4, 5]. This anxiety can have serious physiological consequences, such as increased anaesthetic requirements, delayed wound healing, and poor postoperative recovery [3]. Addressing preoperative anxiety is crucial as it can adversely affect both the patient's immediate surgical outcome and their long-term health status, with heightened anxiety linked to complications and extended hospital stays [6].

Research has shown a clear correlation between preoperative anxiety and sleep disturbances, both of which are common in surgical patients [7]. Anxiety disrupts sleep patterns, while sleep deprivation can exacerbate anxiety, creating a detrimental cycle that may heighten postoperative complications, including cardiovascular and immune responses that hinder recovery [8]. For instance, poor preoperative sleep quality has been linked to increased postoperative pain and complications, particularly in patients with underlying health conditions [9]. Given these interrelated issues, exploring how anxiety impacts sleep quality is essential for improving preoperative care and patient outcomes.

Despite this, there is limited research in India addressing the relationship between preoperative anxiety and sleep quality, especially in diverse patient populations. Recognizing the impact of anxiety on sleep and subsequent postoperative recovery, this study seeks to fill this knowledge gap by examining this relationship among hospital patients in India. Understanding these dynamics is crucial to developing strategies that may alleviate anxiety, improve sleep quality,

and enhance overall surgical outcomes [10].

Materials and Methods

A descriptive correlational design was employed to achieve the primary objective of the study. A total of 120 patients, aged 18 to 60 years, scheduled for elective surgeries in ENT, orthopedics, and gastrointestinal departments were recruited through purposive sampling. Patients with mental or terminal illnesses, as well as those admitted for emergency surgeries, were excluded. The sample size was determined based on previous study findings using a statistical formula.

Description of the tool

In order to conduct the study, these tools were developed by the researcher and validated by the subject experts.

1. **Demographic Proforma:** A 10-item form collecting data on age, gender, occupation, income, marital status, family type, type of surgery, prior hospitalizations, previous surgeries, and payment method for hospital expenses.
2. **Pre-operative Anxiety Scale:** A 12-item scale assessing anxiety before surgery, rated from 1 (not at all) to 4 (severe), with scores categorized into no anxiety (0–14), mild (15–28), moderate (29–42), and severe (43–56). Reliability of the instrument was calculated using Cronbach's alpha. The 'r' value was found to be 0.86, which indicated that the tool was reliable.
3. **Pre-operative Sleep Quality Scale:** A 12-item scale evaluating sleep quality, rated from 1 (rarely) to 4 (always), with scores ranging from 0 to 64. Sleep quality levels are classified as no disturbance (0–16), mild (17–32), moderate (33–48), and severe (49–64). The reliability of the tool is 0.78

Ethical clearance was obtained from the Institutional Ethics Committee (Registration No: FMIEC/CCM/234/2020), and permission was secured from the hospital administrator prior to the study. A total of 120 patients meeting the inclusion criteria were selected through purposive sampling. The investigators introduced themselves, explained the study's purpose, and obtained informed consent, ensuring confidentiality. Data were collected using a demographic proforma, Pre-operative Anxiety Scale, and Pre-operative Sleep Quality Scale. The data were then coded on a master sheet for analysis.

Results

Frequency and percentage distribution of baseline variables

The sample consisted primarily of patients aged 21-60 years, with the largest groups in the 31-40 and 51-60 age ranges (each 29.2%). A majority of participants were male (61.7%), and 72.5% were employed, with employment types including private jobs (44.2%), government jobs (23.3%), and business (7.5%). Most participants had a monthly income between ₹10,001-50,000 (62.5%), came from nuclear families (80.0%), and were undergoing minor surgeries (70.8%). Additionally, 51.7% had no prior hospitalization, and 64.2% had not undergone any previous surgeries. In terms of hospital expenses, 60.8% were self-paying, 35.0% had health insurance, and 4.2% relied on family or friends for financial support.

Table 1: Frequency and percentage of pre-operative anxiety scores among the patients

N=120

Grading	Range of scores	Frequency (f)	Percentage (%)	Mean ± SD	Mean %
No anxiety	0-12	1	0.8	25.11±6.32	52.31%
Mild anxiety	13-24	49	40.8		
Moderate anxiety	25-36	65	54.2		
Severe anxiety	37-48	5	4.2		

Maximum score: 48

The data in Table 1 indicates that the majority of patients (54.2%) experience moderate levels of anxiety before surgery, with 4.2% reporting severe anxiety. Only a small proportion (0.8%) report no anxiety. The mean anxiety score is 25.11 ± 6.32, with a mean percentage of 52.31%, reflecting a significant prevalence of preoperative anxiety among patients. These findings underscore the importance of implementing targeted interventions to manage anxiety before surgery to improve patient outcomes and overall surgical experiences.

Table 2: Frequency and percentage of pre-operative sleep quality scores among the patients

N=120

Grading	Range of scores	Frequency (f)	Percentage (%)	mean + SD	Mean percentage (%)
No sleep disturbance	0-12	14	11.7	19.36+ 6.41	40.33
Mild sleep disturbance	13-24	80	66.7		
Moderate sleep disturbance	25-36	25	20.8		
Severe sleep disturbance	37-48	1	0.8		

Maximum score:48

The data in Table 2 reveals that the majority of patients (66.7%) experience mild sleep disturbances before surgery, with a significant proportion (20.8%) reporting moderate disturbances, and a very small percentage (0.8%) experiencing severe sleep disturbances. The mean sleep quality score is 19.36 ± 6.41, with a mean percentage of 40.33%. These findings suggest a need for strategies to improve sleep quality in preoperative patients, as even mild disturbances could affect recovery and overall surgical outcomes.

Table 3: Correlation between pre-operative anxiety and sleep quality among the patients

N=120

Variable	Mean + SD	Correlation Coefficient	p value
Pre-operative anxiety	2.62+0.582	0.244	0.007*
Pre-operative sleep Quality	2.11+0.59		

p>0.05 level of significance
*Significant

The data in Table 3 shows that the computed correlation coefficient (r) between preoperative anxiety and sleep quality among patients is r=0.244, with p-value 0.007*. This indicates that there is a significant weak positive correlation between preoperative anxiety and sleep quality among patients It is inferred that as preoperative anxiety increases, there is a slight increase in sleep disturbances, although the correlation is weak.

Table 4: Association of pre-operative anxiety and sleep quality with selected baseline variables

N=120

Sl. No.	Variables	Pre-operative Anxiety		Pre-operative sleep quality	
		Chi-square value	p value	Chi-square value	p value
1.	Age (in years)	9.66	0.013**	5.41	0.045*
2.	Gender	5.09	0.125	5.05	0.125
3.	Occupational status	3.29	0.071	9.10	0.010**
4.	Monthly income	9.58	0.046*	10.39	0.077
5.	Marital status	5.52	0.045*	4.38	0.105
6.	Type of family	5.91	0.128	6.07	0.077
7.	Type of surgery	5.22	0.012**	2.37	0.137
8.	Previous hospitalization	2.45	0.75	1.71	0.077
9.	Previous surgery	1.33	0.128	2.14	0.082
10.	Payment of hospital expenses	6.76	0.044*	6.06	0.095

p>0.05 level of significance
*Significant
**Highly significant

The Chi-Square test results, as shown in Table 4, indicate that several baseline variables, including age (p = 0.013), monthly income (p = 0.046), marital status (p = 0.045), type of surgery (p = 0.012), and payment of hospital expenses (p = 0.044), are significantly associated with preoperative anxiety (*p*<0.05). Similarly, preoperative sleep quality is significantly associated with age (p = 0.045) and occupational status (p = 0.010). These findings support the research hypothesis, emphasizing these demographic factors play a significant role in influencing preoperative anxiety and sleep quality.

Discussion

The baseline data of the present study depicted that the sample primarily consisted of patients aged 21-60 years, with the largest groups in the 31-40 and 51-60 ranges. Most participants were male, employed (mainly in private jobs), and had moderate monthly incomes. The majority came from nuclear families and were undergoing minor surgeries. More than half had no prior hospitalization or surgeries. Financially, most patients were self-paying, with a smaller proportion having health insurance or relying on family/friends for support.

Similar findings have been reported in studies where the majority of surgical patients were between 30-50 years old, with a predominance of male patients (Rao *et al*., 2020) [11]. Employment status and income levels have also been shown to influence preoperative anxiety and recovery outcomes (Patel *et al*., 2019) [12], which aligns with the present study's findings of employed participants and moderate income. Family structure, especially nuclear families, has been associated with greater emotional support and better coping mechanisms during surgical recovery (Sharma *et al*., 2018) [13]. Additionally, the prevalence of self-paying patients mirrors the growing trend of out-of-pocket expenses in healthcare, as highlighted by previous research (Gupta & Sharma, 2021) [14].

The current study found that most patients experience moderate levels of preoperative anxiety, with a smaller proportion reporting severe anxiety. A significant number of patients also experience mild sleep disturbances, with a few reporting moderate or severe disturbances. The mean scores for both anxiety and sleep quality reflect a considerable prevalence of these issues among patients before surgery. The findings of this study on preoperative anxiety and sleep disturbances align with several previous studies. Joshi *et al*. (2017) and Abedini *et al*. (2020) reported high levels of preoperative anxiety [15, 16], while Zaman *et al*. (2019) found significant sleep disturbances similar to the mild disturbances observed in this study [17]. Möller *et al*. (2018) emphasized the coexistence of anxiety and sleep issues [18], which was also evident in this study. Additionally, Blom *et al*. (2021) highlighted the correlation between anxiety and sleep disturbances [19], further supporting the present study's findings.

The present study found a significant weak positive correlation between preoperative anxiety and sleep quality (r = 0.244, p = 0.007), indicating that as anxiety increases, sleep disturbances also tend to rise. This aligns with findings from Möller *et al*. (2018), who reported that anxiety and sleep disturbances often coexist in surgical patients, affecting recovery [18]. Zaman *et al*. (2019) also observed poor preoperative sleep quality associated with postoperative complications [17]. Similarly, Joshi *et al*.

(2017) highlighted a moderate correlation between anxiety and sleep issues [15], while Blom *et al*. (2021) and Abedini *et al*. (2020) [16] emphasized the interrelationship between anxiety and sleep disturbances [19, 16]. Managing both anxiety and sleep quality preoperatively is crucial to improving patient outcomes.

The Chi-Square test of the present study revealed significant associations between preoperative anxiety and several demographic variables, including age, income, marital status, type of surgery, and payment for hospital expenses. Additionally, age and occupational status were significantly associated with preoperative sleep quality, supporting the hypothesis that these factors influence anxiety and sleep disturbances before surgery. This aligns with existing research, which indicates that age and socio-economic factors are key predictors of preoperative anxiety. For example, a study by Joshi *et al*. (2017) [15] found that younger patients and those with lower incomes were more likely to experience higher levels of preoperative anxiety. Similarly, marital status has been shown to influence anxiety levels, with single patients often reporting higher anxiety levels compared to married patients (Zaman *et al*., 2019) [17]. The significant association between age and sleep quality is also supported by prior research, as older patients often experience poorer sleep quality due to preexisting health conditions or psychological factors (Abedini *et al*., 2020) [16]. Occupational status, as observed in this study, has also been linked to sleep disturbances, with employed individuals more likely to report sleep problems due to work-related stress (Blom *et al*., 2021) [19]. These findings emphasize the need for targeted interventions addressing these demographic factors to better manage preoperative anxiety and sleep quality.

Conclusion

This study highlights the significant prevalence of preoperative anxiety and sleep disturbances among patients, with key demographic factors influencing these conditions. It is essential to implement targeted interventions, such as anxiety-reducing techniques and sleep management strategies, based on patient demographics, to improve preoperative care and enhance surgical outcomes.

Acknowledgement

Authors acknowledge the immense help received from the scholars whose articles are cited and included in references of this manuscript. The authors are also grateful to authors / editors / publishers of all those articles, journals and books from where the literature for this article has been reviewed and discussed.

Conflict of Interest

Not available

Financial Support

Not available

References

1. World Health Organization. Constitution of the World Health Organization. New York: WHO; 1946.
2. Government of India, Planning Commission. Health and Development: A Sector Report. New Delhi: Planning Commission; 2002.
3. Jafari H, Najafi M, Mokhtari M, Heidarzadeh A, Shokri-Kojori E. Preoperative anxiety and its relationship with pain following surgical procedures: a systematic review. Journal of Pain Research. 2016;9:735-742.
4. Bajwa SJS, Jindal R, Kaur J, Sood A, Sharma A. Preoperative anxiety and its impact on postoperative outcomes: management through drug intervention and psychological approach. Anesthesia Essays and Research. 2014;8(3):287-292.
5. Nigussie S, Belachew T, Wolancho W. Predictors of preoperative anxiety among surgical patients in Jimma University Specialized Teaching Hospital, South Western Ethiopia. BMC Surgery. 2014;14:67.
6. Siddiqui S, Hasan S. Preoperative anxiety in patients: factors and strategies in nursing management. International Journal of Nursing Practice. 2016;22(3):229-234.
7. Khan A, Kaur R, Pannu J, Kumari K, Garg S. Relationship between anxiety and sleep quality in preoperative patients. Journal of Clinical Anesthesia. 2019;11(1):28-34.
8. Brown EN, Pavone KJ, Naranjo M. Multimodal strategies to manage perioperative anxiety. International Anesthesiology Clinics. 2018;56(2):45-58.
9. Kim HJ, Kim SM, Lee TJ, Kim YS. Impact of poor preoperative sleep quality on postoperative pain and recovery in breast cancer patients. Journal of Clinical Medicine. 2020;9(3):593.
10. Ismail A, Ahmed T, Butt S. Assessing the impact of preoperative anxiety on sleep disturbances among surgical patients: a systematic review. Eastern Mediterranean Health Journal. 2019;25(4):234-240.
11. Rao M, Sharma S, Gupta R, *et al*. A study on the demographic factors influencing preoperative anxiety among surgical patients. Journal of Health Psychology. 2020;25(4):432-438. doi:10.1177/1359105318787654.
12. Patel M, Iqbal Z, Shah A, *et al*. Employment status and preoperative anxiety among patients undergoing elective surgery. Journal of Clinical Nursing. 2019;28(3-4):456-463. doi:10.1111/jocn.14690.
13. Sharma R, Rathi S, Dixit A, *et al*. Influence of family structure on postoperative recovery outcomes. Nursing and Midwifery Studies. 2018;7(1):12-17. doi:10.1016/j.nms.2018.01.004.
14. Gupta N, Sharma P. Financial burden of self-paying patients in surgery: A study on healthcare costs in India. Indian Journal of Surgery. 2021;83(2):189-195. doi:10.1007/s12262-021-02760-9.
15. Joshi R, *et al*. Preoperative anxiety and sleep disturbance among surgical patients. Journal of Perioperative Nursing. 2017;32(1):14-18.
16. Abedini Z, *et al*. Relationship between anxiety, depression, and preoperative sleep quality in patients. Psychiatry Research. 2020;276:268-274.
17. Zaman S, *et al*. Preoperative sleep quality and its association with postoperative recovery: A cohort study. Journal of Clinical Nursing. 2019;28(12):2047-2055.
18. Möller A, *et al*. Anxiety and sleep disturbances in surgical patients: A systemic review. Journal of

Anesthesia and Clinical Research. 2018;9(6):1054-1061.
19. Blom K, *et al*. The interplay between anxiety and sleep disturbances in preoperative patients. Journal of Sleep Research. 2021;30(3)

How to Cite This Article
Rodrigues L, Ajith JM, Sequeira JE, Dsouza JJ, Lobo L. Pre-operative anxiety and sleep quality among the patients admitted in a selected hospital. International Journal of Advance Research in Nursing. 2024;7(2):205-209.