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HEALING HANDS, CALMING HEARTS: THE IMPACT OF NURSE-PATIENT COMMUNICATION ON ANXIETY AND SATISFACTION IN SURGICAL CARE

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ABSTRACT

Background

Effective nurse–patient communication is a cornerstone of quality surgical care, directly influencing patient satisfaction, psychological outcomes, and recovery. Preoperative anxiety is a common concern among surgical patients, and improving communication skills through structured training programs has been shown to enhance care delivery. However, empirical evidence on the predictive strength of communication, anxiety reduction, and training on patient satisfaction in surgical settings remains limited.

Aim

This study aimed to examine the predictors of patient satisfaction with nursing care, focusing on nurse–patient communication, anxiety reduction, and communication training interventions.

Methods

A quantitative, cross-sectional design was employed with surgical patients recruited from a tertiary care hospital. Patient satisfaction was measured through validated scales, while communication was assessed using the Communication Assessment Tool (CAT) and anxiety reduction through changes in State–Trait Anxiety Inventory (ΔSTAI) scores. Multiple regression analysis was performed to identify significant predictors.

Results

The regression model was statistically significant, explaining a substantial proportion of variance in patient satisfaction. Nurse–patient communication ($\beta = .47$, $p < .001$) emerged as the strongest predictor, followed by anxiety reduction ($\beta = .29$, $p < .001$). Nurse communication training also significantly contributed to satisfaction ($\beta = .18$, $p = .006$). Collectively, these predictors highlight the multidimensional impact of communication-focused interventions on patient experiences.

Conclusion

Enhancing nurse–patient communication and implementing strategies to reduce patient anxiety significantly improve satisfaction with surgical care. Structured communication training should be prioritized in nursing practice and education to ensure sustained improvements in patient-centered care.

Keywords: *Nurse–patient communication; Patient satisfaction; Anxiety reduction; Communication training; Surgical care; Nursing practice*

INTRODUCTION

Nurse-patient communication is a clinical skill that entails the intentional sharing of information, emotional support and therapeutic conversation among health practitioners and patients. Preoperative anxiety is a condition of anxiety, fear and nervousness in patients undergoing surgery. Patient satisfaction is a multidimensional measure indicating the degree to which the delivery of health-care services can surpass or meet patient expectations on the technical, interpersonal, and environmental levels. Surgical care involves the medical care preceding, accompanying, and following the surgical procedures, a very delicate phase that needs an extraordinary approach to communication (Carraccio et al., 2008; Harris and Bacon, 2019).

The levels of clinically significant anxiety amongst the surgical patients, continue to be high. Research shows that around 60-80 percent of patients report moderate to severe anxiety preoperative, and the rates are higher in emergency surgery and specific patient demographic. Even with the increase in the understanding of the significance of suboptimal communication experiences, the lack of these experiences remains widespread in healthcare settings. Studies reveal that close to 40 percent of patients complain about inadequate care in communication with healthcare teams, especially in terms of the clarity of information and emotional support during stressful events such as surgical procedures (Amit-Aharon et al., 2020; Wynne et al., 2024).

Surgery is a psychologically distressing process by default since it involves various processes. The expectation of anesthesia, the risk of pain, the inability to predict the results, and the lack of control make a significant contribution to the level of anxiety in patients. Such psychological pressure may cause physiological effects such as high blood pressure, higher heart rate and more stress hormone release. Such reactions are some of the factors that may complicate the administration of anesthesia, heighten analgesic demands, and extend the time of recovery (Crandall et al., 2006; Burke et al., 2005).

Therapeutic communication is one of the essential nursing interventions to reduce surgical anxiety. Some of the evidence-based communication strategies comprise of clear preoperative education, active listening, expression of empathy and emotional support. Anxiety minimization is also achieved through the effective delivery of information since it increases predictability and reinstates certain control in patients. Emotional support is more straightforward, focusing on fears and concerns, validating the experiences of patients and promoting psychological safety (Mzee, 2021; Halm et al., 2024).

Patient satisfaction is an important quality indicator in healthcare with a high sensitivity to quality of communication. Levels of satisfaction are strongly associated with perceived communication effectiveness and not technical competence alone. Given the same level of satisfaction scores demonstrates that patients are more satisfied when they are listened to, informed and emotionally supported, irrespective of the outcome of the surgery. The quality of communication is one of the key elements affecting patient trust, compliance with treatment regimens, and assessment of the overall healthcare experience (Edward, 2025; Singh et al., 2024).

Postoperative period poses serious challenges of communication related to recovery. Poor communication of pain management results in needless suffering and delayed mobilization. The lack of understanding of discharge instructions elevates risks and complications of readmission. A painful experience often continues after the surgery, and the patient needs further supportive conversations. The communication competence of nurses at this stage has a direct effect on the quality of recovery and patient trust (Melnyk et al., 2018; Alatawi et al., 2020).

The exploration of the benefit of structured nurse-patient communication in particular, in reducing anxiety and improving satisfaction, is a substantial evidence-practice gap. Although the significance of communication has been realized, there is no consistency in operationalizing the effective strategies. The proposed study will attempt to measure the therapeutic impact of communication, which can be used to support the enhancement of nursing education and clinical practice in a surgical environment based on the empirical evidence (Saunders, 2016; Wynne et al., 2024).

Methodology

A quantitative, correlational study design was employed to investigate the relationships between nurse-patient communication, anxiety reduction, and patient satisfaction. The research was conducted in surgical units across three tertiary care hospitals over a six-month period. Participant selection

involved a purposive sampling approach that recruited 350 adult patients undergoing elective surgical procedures and 50 registered nurses from surgical units. Inclusion criteria for patients consisted of adults aged 18-75 years, English-speaking ability, cognitive capacity to provide informed consent, and scheduled for elective surgery. Nurse participants were required to have minimum six months of surgical unit experience.

Data Collection

Data collection utilized three validated instruments administered at different time points. The Communication Assessment Tool (CAT) measured patients' perceptions of communication quality through 15 items on a 5-point Likert scale. The State-Trait Anxiety Inventory (STAI) assessed preoperative and postoperative anxiety levels, while the Patient Satisfaction Scale (PSS) evaluated care satisfaction using 20 items with established reliability ($\alpha = 0.91$). Data collection occurred in three phases: preoperative assessments (baseline anxiety and demographics), hospitalization period (communication observation using structured checklists), and preoperative phase (anxiety and satisfaction measurements before discharge). Nurse participants completed self-assessment questionnaires regarding their communication practices and training background.

Data Analysis

Statistical analysis was performed using SPSS version 26 with descriptive statistics characterizing sample demographics and variable distributions. Pearson correlation coefficients examined relationships between communication scores, anxiety reduction, and satisfaction levels. Multiple regression analysis identified predictors of patient outcomes while controlling for confounding variables. Ethical approval was obtained from institutional review boards, with written informed consent secured from all participants. Confidentiality was maintained through anonymous data collection and secure storage practices, with participants informed of their right to withdraw without care implications. Debriefing sessions were offered to participants experiencing distress.

Results and Analysis

The demographic results show that most participants were between 31–50 years (38.9%), followed by 18–30 years (28.0%) and 51–75 years (33.1%), indicating a balanced age distribution across adulthood. The majority were male (94%), reflecting possible gender disparities in surgical admissions. Nearly half of the patients had higher education (49.7%), suggesting a relatively literate population. Additionally, 60% had no previous surgical experience, highlighting that most were undergoing surgery for the first time.

Table 1
Demographic Characteristics of Patients (N = 350)

Variable	Category	Frequency (n)	Percentage (%)
Age (Years)	18–30	98	28.0
	31–50	136	38.9
	51–75	116	33.1
Gender	Male	329	94.0
	Female	21	6.0
Education Level	Primary or below	72	20.6
	Secondary	104	29.7
	Higher (College/Univ.)	174	49.7
Previous Surgery	Yes	140	40.0
	No	210	60.0

The results indicate that the majority of participants were female (78%), while only 22% were male, reflecting a female-dominated group. Half of the respondents (50%) had more than 5 years of professional experience, showing a well-experienced sample, whereas 34% had 3–5 years and 16% had 0.5–2 years of experience. More than half (58%) reported receiving communication training, while

42% had not, suggesting variations in exposure to professional skill development. Overall, the data highlight gender predominance, considerable experience levels, and moderate participation in communication training.

Table 2
Nurse Demographics (N = 50)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	39	78.0
	Male	11	22.0
Experience (Years)	0.5–2	8	16.0
	3–5	17	34.0
	> 5	25	50.0
Communication Training	Yes	29	58.0
	No	21	42.0

The findings show that communication skills, measured by the Communication Assessment Tool (M = 4.12, SD = 0.58), were rated relatively high, reflecting positive patient–provider interactions. Preoperative anxiety levels (M = 49.32, SD = 9.44) were moderate to high, but postoperative anxiety significantly decreased (M = 35.76, SD = 8.27), with a notable reduction in anxiety (ΔSTAI = –13.56, SD = 6.98). This indicates the effectiveness of interventions or perioperative care in alleviating anxiety. Additionally, patient satisfaction scores were high (M = 82.45, SD = 9.83), suggesting that overall communication and anxiety management contributed positively to patient experiences.

Table 3
Descriptive Statistics of Key Variables

Variable	Mean (M)	SD	Range (Possible)
Communication Assessment Tool (CAT)	4.12	0.58	1–5
Preoperative Anxiety (STAI)	49.32	9.44	20–80
Postoperative Anxiety (STAI)	35.76	8.27	20–80
Anxiety Reduction (ΔSTAI)	-13.56	6.98	—
Patient Satisfaction (PSS)	82.45	9.83	20–100

The correlation matrix indicates meaningful associations among the study variables. Communication (CAT) shows a moderate positive correlation with anxiety reduction (r = .46), suggesting that better communication is linked with greater decreases in patient anxiety. Communication also has a stronger positive correlation with patient satisfaction (r = .58), highlighting its central role in enhancing patient experience. Furthermore, anxiety reduction is positively associated with patient satisfaction (r = .42), indicating that lowering anxiety contributes to higher satisfaction levels. Overall, effective communication appears to be a key driver of both anxiety reduction and patient satisfaction.

Table 4
Pearson Correlation between Communication, Anxiety Reduction, and Satisfaction

Variables	1	2	3
1. Communication (CAT)	1	—	—
2. Anxiety Reduction (ΔSTAI)	.46	1	—
3. Patient Satisfaction (PSS)	.58	.42	1

The regression analysis results demonstrate that communication, anxiety reduction, and nurse communication training are all significant predictors of patient satisfaction. The overall model indicates that higher communication scores (B = 6.34, β = .47, p < .001) strongly predict greater

patient satisfaction, making communication the most influential factor. Anxiety reduction also significantly contributes (B = 3.12, β = .29, p < .001), suggesting that effective pre- and postoperative anxiety management improves satisfaction levels. Additionally, nurse communication training emerged as a positive predictor (B = 4.89, β = .18, p = .006), highlighting the role of professional training in enhancing patient experiences. These findings suggest that both interpersonal communication skills and structured training interventions meaningfully improve patient satisfaction, with communication quality exerting the strongest effect.

Table 5
Multiple Regression Analysis Predicting Patient Satisfaction (N = 350)

Predictor Variables	B	SE	β	t	p
Constant	41.23	4.88	—	8.45	<.001
Communication (CAT)	6.34	0.91	.47	6.98	<.001
Anxiety Reduction (ΔSTAI)	3.12	0.84	.29	3.71	<.001
Nurse Communication Training	4.89	1.76	.18	2.77	.006

Discussion

Findings of this study clearly illustrate that there is a significant relationship between interpersonal communication and patient-centered outcomes in surgical nursing care. The Communication Assessment Tool mean score (M = 4.12) observed indicates that the overall review of the quality of communication is rather positive, which is consistent with the results of Alanazi et al. (2024) about the essentiality of therapeutic communication in clinical practice. This correlation supports an already existing concept that efficient communication is one of the pillars of quality nursing practice, especially where there is apparent patient vulnerability and stress.

The notable decrease in the score of anxiety during preoperative and postoperative measurements (-STAI = -13.56) is a clinically significant finding. The reduction is consistent with recent studies conducted by Paladini et al. (2023), which reported a comparable reduction in anxiety with the implementation of structured nursing interventions in surgical patients. Yet, the results obtained today are opposed to those of Issac (2023), who also described more humble anxiety alleviation with less possible intervention outcomes, and it is interesting to suppose that the setting can affect the results of interventions. The high levels of anxiety alleviation in this case could be due to the holistic nature of the communication practices that were applied in the study context.

The correlation analysis showed that especially strong associations were established between the quality of communication and patient satisfaction (r = .58), which supports prior research conducted by Wang et al. (2023) that established communication to be the major determinant of satisfaction in healthcare. The relationship is stronger than the one provided by Çakmak and Uğurluoğlu, who report moderate correlations in their article on cancer patients (2024) and which may be due to specialty-specific differences in the effects of communication. The present results support the essential role of quality communication in determining patient experiences and impressions of care.

The results of the regression also clarified these associations, with the greatest predictive power of patient satisfaction being communication quality (8 .47). The result expands the writing of Gao et al. (2023), who also reported that communication is a major determinant of satisfaction but in the context of postoperative care. The importance of anxiety reduction (.29) is significant and helps fit the mechanistic model of Alghamdi et al. (2024), according to which communication minimizes anxiety that consequently leads to increased satisfaction. This pathway implies that communication interventions can have an advantage both in a direct and an indirect way.

Although the relationship between the nurse communication training and patient satisfaction (= -.18) is relatively small, it is still consistent with the existing study by Hussain et al. (2025) that proved the usefulness of structured training programs in the context of professional performance. This connection is even less strong than that provided by for Nursing et al. (2024) and could be associated with differences in the quality of training or its application. The results justify the further investment in learning communication skills, but at the same time they indicate that the training programs could be improved with the consideration

of more factors related to contextual implementation and organizational support mechanisms.

There are a few methodological issues to be taken into consideration in the interpretation of these findings. The cross-sectional design prevents the possibility of causal inference, and the single-setting data collection can influence the generalizability. Both the patient and nurse samples are gender disproportionate, which is compared to some surgical specialities; therefore, one should be careful when generalizing the results to other groups. Such limitations are in line with the methodological issues that Alanazi et al. (2024) observe in other studies in the same area of perioperative communication and point to the necessity of multi-site longitudinal research in future studies.

Irrespective of these shortcomings, the results have meaningful clinical and educational implications. The relationships exemplified encourage increased emphasis in communication skills in nursing education programs and in continuing education especially in surgical specialties. Organizations in the healthcare field ought to contemplate the use of systematic communication procedures and education programs as outlined by Çakmak and Ugurlu (2024) in their patient-centered care program. Future studies ought to consider the way in which demographic variables and clinical contextualize communication outcome relationships in order to come up with more focused intervention strategies.

Conclusion

This study highlights the pivotal role of nurse–patient communication in shaping surgical patients' psychological outcomes and overall satisfaction with care. The findings revealed that effective communication, assessed through the Communication Assessment Tool (CAT), was the strongest predictor of patient satisfaction, underscoring its central role in quality healthcare delivery. Furthermore, reduction in preoperative and postoperative anxiety significantly contributed to positive patient experiences, emphasizing the importance of addressing emotional well-being during surgical care. Nurse communication training also showed a notable positive effect, reinforcing the value of structured skill-building programs in enhancing patient-centered care. Overall, the study demonstrates that improving communication skills and implementing targeted interventions to reduce anxiety can significantly improve patient satisfaction, trust, and recovery outcomes in surgical settings.

Recommendations

1. **Integrate Communication Training into Nursing Curricula**
   - Nursing schools and hospitals should include structured communication training programs, focusing on empathy, clarity, and patient engagement.

2. **Regular Professional Development**
   - Healthcare institutions should conduct ongoing workshops and refresher courses for nurses to sustain and enhance communication skills.

3. **Psychological Support Interventions**
   - Preoperative counseling and relaxation techniques should be introduced to help patients manage anxiety effectively before surgery.

4. **Policy Implementation**
   - Hospital administration should mandate nurse–patient communication as a quality indicator in patient satisfaction and clinical audits.

5. **Multidisciplinary Approach**
   - Collaboration among surgeons, anesthetists, and nurses in communication with patients can further strengthen trust and reduce anxiety.

6. **Future Research**
   - Larger multicenter studies are recommended to validate these findings and explore additional moderating factors such as cultural differences, age, and type of surgery.

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