



Association Between Nurse Anesthetist Therapeutic Communication and Psychological Readiness Among Preoperative Patients Receiving Spinal Anesthesia: A Cross-Sectional Study

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ABSTRACT

Background: Psychological readiness is essential for patients undergoing surgery with spinal anesthesia because they generally remain conscious during the procedure. Therapeutic communication provided by nurse anesthetists may reduce uncertainty, strengthen trust, and support patients' cognitive and emotional preparation before surgery.

Objectives: To examine the association between nurse anesthetists' therapeutic communication and psychological readiness among preoperative patients receiving spinal anesthesia.

Methods: A quantitative descriptive-correlational study with a cross-sectional design was conducted at the Central Surgical Installation of RS PKU Muhammadiyah Gombong, Indonesia. Seventy-five patients aged 18–65 years were selected using purposive sampling. Therapeutic communication was assessed using a modified 20-item Therapeutic Communication Scale, while psychological readiness was measured using a modified 20-item Preoperative Assessment of Readiness Tool. Descriptive statistics and Spearman's rank correlation were used for data analysis.

Results: Most participants perceived nurse anesthetists' therapeutic communication as good (66.7%), and 84.0% demonstrated high psychological readiness. Among participants who reported good therapeutic communication, 48 patients had high psychological readiness. Spearman's rank correlation showed a statistically significant, strong, and positive association between therapeutic communication and psychological readiness ($\rho = 0.681, p < 0.001$).

Conclusions: Better therapeutic communication was associated with higher psychological readiness among preoperative patients receiving spinal anesthesia. Structured communication involving clear information, active listening, empathy, reassurance, and confirmation of understanding should be integrated into routine preoperative anesthesia care.



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Introduction

Surgical procedures are essential components of modern health care because they enable the diagnosis and treatment of conditions that cannot be managed adequately through conservative approaches. Spinal anesthesia is widely used for lower abdominal, pelvic, perineal, and lower-extremity surgery because it provides effective regional analgesia while avoiding loss of consciousness. Because patients generally remain conscious during spinal anesthesia, they may hear operating-room sounds, observe clinical activities, experience unfamiliar bodily sensations, and worry about needle insertion, paralysis, pain, or anesthetic complications. Consequently, preoperative preparation for patients receiving spinal anesthesia should address not only physical suitability and procedural safety but also psychological readiness and person-centered support (Haddad et al., 2024; Leonardsen et al., 2024; Salzmann et al., 2020).

Preoperative anxiety is one of the most frequently reported psychological responses among surgical patients and may emerge from uncertainty regarding anesthesia, surgical outcomes, postoperative pain, loss of control, disability, or death. A global systematic review estimated that approximately 48% of surgical patients experienced preoperative anxiety, while evidence from low- and middle-income countries reported a pooled prevalence exceeding 55% (Abate et al., 2020; Bedaso et al., 2022). Anxiety may be particularly relevant during spinal anesthesia because patients anticipate remaining conscious while experiencing temporary sensory and motor blockade, thereby increasing their need for procedural information and emotional reassurance (Eberhart et al., 2020; Oteri et al., 2021). When poorly managed, preoperative anxiety may trigger psychophysiological responses, increase anesthetic or analgesic requirements, impair cooperation, and contribute to less favorable perioperative recovery (Baagil et al., 2023; Chen et al., 2022; Shebl et al., 2025).

Psychological readiness refers to a patient's perceived ability to understand, accept, and cope with the forthcoming surgical and anesthetic procedures. It encompasses cognitive readiness through adequate knowledge, affective readiness through emotional stability and confidence, and behavioral readiness through willingness to cooperate with the perioperative team. Patients with adequate readiness are more likely to understand procedural expectations, communicate their concerns, follow instructions, and participate actively in their care. Conversely, insufficient information and inadequate supportive interpersonal care may reduce confidence and leave patients feeling uncertain or emotionally unprepared for surgery (Bao et al., 2022; Torres & Macindo, 2018).

Therapeutic communication is a purposeful professional interaction designed to establish trust, identify patient concerns, provide understandable information, and support emotional adaptation. Its essential components include active listening, empathy, respectful verbal and nonverbal responses, clarification, reassurance, and opportunities for patients to ask questions. Through these processes, therapeutic communication may reduce uncertainty, improve knowledge, validate emotional experiences, and strengthen patients' confidence in the perioperative team (Afriyie, 2020; Howick et al., 2018; Moudatsou et al., 2020). Contemporary patient-centered perioperative care similarly emphasizes that preparedness is promoted through individualized information, shared understanding, supportive interpersonal relationships, and patient involvement in decision-making (Leonardsen et al., 2024).

Nurse anesthetists are strategically positioned to deliver therapeutic communication because they interact directly with patients during the immediate preoperative period and throughout spinal anesthetic procedures. Before spinal anesthesia, they can explain patient positioning, needle insertion, expected sensory changes, monitoring procedures, potential adverse effects, and the importance of remaining still and cooperative. During the awake procedure, they can observe verbal and nonverbal signs of distress, respond to questions, provide reassurance, and maintain a calm and supportive presence. This continuous contact makes therapeutic communication a clinically relevant component of nurse anesthetist practice rather than an optional social interaction (Dias et al., 2022; Haddad et al., 2024; Pereira et al., 2016).

Accumulating evidence indicates that structured preoperative communication and education can improve psychological outcomes among surgical patients. A systematic review and meta-analysis found that nursing interventions—particularly educational, informative, empathic, and motivational interviews—were associated with reduced preoperative anxiety among adults undergoing surgery (Ruiz Hernández et al., 2021). Other evidence shows that nonpharmacological preparation and preoperative education can improve knowledge, reduce anxiety, and increase satisfaction, although intervention effects vary according to content, delivery method, surgical population, and outcome measurement (Agüero-Millán et al., 2023; Ng et al., 2022; Steves & Scafide, 2021; Wang et al., 2022). Empathic patient-centered communication and structured preoperative nurse dialogue have also demonstrated benefits for anxiety, perceived information, satisfaction, and aspects of recovery, supporting communication as a modifiable element of perioperative care (Dias et al., 2022; Pereira et al., 2016).

Despite expanding evidence regarding preoperative education and anxiety management, several gaps remain in the literature. Most previous studies have evaluated anxiety as the primary psychological outcome, examined communication by general nursing or multidisciplinary personnel, or involved heterogeneous surgical populations receiving different anesthetic techniques. Few studies have specifically examined the association between nurse anesthetists' therapeutic communication and the broader construct of psychological readiness among patients receiving spinal anesthesia, particularly within Indonesian perioperative settings. Preliminary hospital records at RS PKU Muhammadiyah Gombong documented an average of 296 patients receiving spinal anesthesia per month from July to September 2025, emphasizing the clinical relevance of evaluating communication and readiness within this high-volume population.

Clarifying the association between therapeutic communication and psychological readiness is important for developing preoperative care that addresses patients' informational, emotional, and behavioral needs. Evidence from this population may support standardized communication protocols, individualized patient education, and professional development for nurse anesthetists working with conscious patients during regional anesthesia. Therefore, this study aimed to examine the association between nurse anesthetists' therapeutic communication and psychological readiness among preoperative patients receiving spinal anesthesia. It was hypothesized that better therapeutic communication would be positively associated with higher psychological readiness.

Methods

This study employed a quantitative descriptive-correlational approach with a cross-sectional design to examine the association between nurse anesthetists' therapeutic communication and psychological readiness among preoperative patients receiving spinal anesthesia. The study was conducted in the Central Surgical Installation of RS PKU Muhammadiyah Gombong, Kebumen, Central Java, Indonesia, in 2026.

Participants were selected using purposive sampling. Eligible participants were patients aged 18–65 years, scheduled to undergo surgery under spinal anesthesia, conscious and able to communicate effectively, and willing to participate by providing written informed consent. Patients were excluded if they had a diagnosed psychiatric or mental disorder, severe hearing or communication impairment, were in an emergency or critical condition, declined participation, or returned incomplete questionnaires.

The final sample consisted of 75 preoperative patients, calculated from an accessible population of approximately 296 patients receiving spinal anesthesia per month using the Slovin formula with a 10% margin of error. Participant characteristics, including age, sex, educational level, and previous surgical experience, were recorded using a structured demographic form.

Nurse anesthetists' therapeutic communication was measured using a modified 20-item Therapeutic Communication Scale. The instrument assessed orientation and initial interaction, clarity of information, empathy, emotional responsiveness, and psychological support. Each item was rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree),

producing a total score of 20–100. Scores were categorized as poor (20–46), moderate (47–73), or good (74–100) therapeutic communication.

Psychological readiness was assessed using a modified 20-item Preoperative Assessment of Readiness Tool adapted from Bao et al. (2022). The instrument measured cognitive readiness, affective readiness, behavioral willingness, perceived support and safety, and general psychological preparedness. Each item was scored on a five-point Likert scale, resulting in a total score of 20–100, which was categorized as low (20–46), moderate (47–73), or high (74–100) psychological readiness. Both questionnaires underwent expert content review before data collection and were considered appropriate for use in the study.

Eligible patients received an explanation of the study objectives, procedures, voluntary nature of participation, and confidentiality protections. After providing written informed consent, participants completed the questionnaires during the preoperative period before undergoing spinal anesthesia. The researcher or research assistant provided clarification when needed and checked the questionnaires for completeness before data entry.

Data were analyzed using IBM SPSS Statistics version 24. Descriptive statistics, including frequencies and percentages, were used to summarize participant characteristics, therapeutic communication, and psychological readiness. The association between nurse anesthetists' therapeutic communication and psychological readiness was examined using Spearman's rank correlation because both variables were analyzed on ordinal scales. Statistical significance was set at $p < 0.05$.

Ethical approval was obtained from the Health Research Ethics Committee of Universitas 'Aisyiyah Yogyakarta, No. 5295/KEP-UNISA/II/2026. Participation was voluntary, and all respondents were informed of their right to withdraw at any time without consequences. Written informed consent was obtained before data collection, and anonymity and confidentiality were maintained throughout the study.

Results

All 75 participants completed the study and were included in the analysis. Most participants were aged 18–40 years (53.3%), female (62.7%), had completed senior high school (73.3%), and had no previous surgical experience (66.7%). Nurse anesthetists' therapeutic communication was predominantly rated as good (66.7%), while most participants demonstrated high psychological readiness (84.0%).

Table 1: Characteristics of participants

Variable	Category	n	%
Age, years	18–40	40	53.3
	41–65	35	46.7
Sex	Male	28	37.3
	Female	47	62.7
Educational level	Elementary school	4	5.3
	Junior high school	16	21.3
	Senior high school	55	73.3
	Diploma/bachelor's degree	0	0.0
Previous surgical experience	Yes	25	33.3
	No	50	66.7
Therapeutic communication	Good	50	66.7
	Moderate	25	33.3
	Poor	0	0.0
Psychological readiness	High	63	84.0
	Moderate	12	16.0
	Low	0	0.0

Among all participants, 48 patients (64.0%) rated nurse anesthetists' therapeutic communication as good and demonstrated high psychological readiness, while two patients (2.7%) reported good communication and moderate readiness. Fifteen participants (20.0%)

reported moderate therapeutic communication and high psychological readiness, whereas 10 participants (13.3%) reported moderate communication and moderate readiness. No participants were categorized as having poor therapeutic communication or low psychological readiness.

Table 2: Association between nurse anesthetists' therapeutic communication and psychological readiness among preoperative patients receiving spinal anesthesia

Therapeutic communication	High readiness		Moderate readiness		Low readiness		Total		p-value	Spearman's ρ
	n	%	n	%	n	%	n	%		
Good	48	64.0	2	2.7	0	0.0	50	66.7	<0.001	0.681
Moderate	15	20.0	10	13.3	0	0.0	25	33.3		
Poor	0	0.0	0	0.0	0	0.0	0	0.0		
Total	63	84.0	12	16.0	0	0.0	75	100.0		

Note. Percentages were calculated using the total sample as the denominator. Spearman's rank correlation was two-tailed, with statistical significance set at $p < 0.05$.

Spearman's rank correlation analysis showed a statistically significant, strong, and positive association between nurse anesthetists' therapeutic communication and psychological readiness ($\rho = 0.681$, $p < 0.001$). Better therapeutic communication was associated with higher psychological readiness among preoperative patients receiving spinal anesthesia.

Discussion

This study identified a statistically significant, strong, and positive association between nurse anesthetists' therapeutic communication and psychological readiness among preoperative patients receiving spinal anesthesia ($\rho = 0.681$, $p < 0.001$). Most participants rated therapeutic communication as good (66.7%), while 84.0% demonstrated high psychological readiness before surgery. Among the 50 participants who reported good therapeutic communication, 48 had high psychological readiness, whereas moderate readiness was more frequently observed among those who reported only moderate communication. These findings indicate that better perceived communication was associated with greater psychological readiness, although the cross-sectional design does not establish a causal relationship.

The present findings are consistent with evidence showing that effective preoperative communication and nursing support are closely related to more favorable psychological outcomes among surgical patients. Ruiz Hernández et al. (2021) reported that informative, educational, empathic, and motivational nursing interventions were effective in reducing preoperative anxiety among adults undergoing surgery. Similarly, a randomized controlled trial by Dias et al. (2022) found that structured preoperative dialogue with an operating-room nurse improved patients' perceived information, satisfaction, and psychological experience. These findings collectively suggest that purposeful professional communication can strengthen patients' emotional adjustment and preparedness before anesthesia and surgery.

A plausible explanation for the observed association is that therapeutic communication reduces uncertainty while strengthening patients' knowledge, confidence, and trust in the anesthesia team. Clear explanations regarding the purpose, stages, expected sensations, benefits, and risks of spinal anesthesia can improve cognitive readiness by helping patients understand what will occur during the procedure. Empathic listening, reassurance, respectful responses, and opportunities to express concerns may simultaneously support affective readiness by reducing fear and increasing feelings of safety (Howick et al., 2018; Moudatsou et al., 2020). These communication processes correspond with the cognitive, affective, behavioral, supportive, and general-readiness dimensions assessed in the present study (Bao et al., 2022; Torres & Macindo, 2018).

The association may be particularly important for patients receiving spinal anesthesia because they commonly remain conscious during the anesthetic procedure and surgery. Unlike patients under general anesthesia, they may remain aware of operating-room activities, experience temporary loss of sensation and movement, and be required to maintain a specific position during needle placement. Such circumstances can produce fear, discomfort, uncertainty,

and concern regarding pain or complications, particularly when information and emotional support are insufficient (Bedaso et al., 2022; Eberhart et al., 2020). Continuous therapeutic communication from nurse anesthetists may therefore help patients remain calm, understand instructions, cooperate with positioning, and develop greater confidence in the safety of the procedure.

The high proportion of participants with psychological readiness in the high category may also reflect the generally favorable communication practices reported in the study. The therapeutic communication instrument evaluated initial orientation, clarity of information, empathy, emotional responsiveness, and psychological support, all of which are central components of patient-centered perioperative care. Patient-centered communication has been associated with better understanding, stronger therapeutic relationships, lower anxiety, and greater satisfaction with care (Afriyie, 2020; Leonardsen et al., 2024; Pereira et al., 2016). However, the absence of participants in the poor-communication and low-readiness categories may have restricted variability and could have influenced the magnitude of the observed correlation.

Most participants were female, had completed senior high school, and had no previous surgical experience. Educational background and prior surgical experience may influence patients' ability to process medical information, anticipate procedural events, and regulate emotional responses before surgery. Patients without previous surgical experience may be particularly dependent on explanations and reassurance from nurse anesthetists because they cannot rely on personal experience to interpret the forthcoming procedure. Nevertheless, these characteristics were described only at the univariate level, and their independent influence on psychological readiness was not examined in the present analysis.

Clinically, the findings emphasize that therapeutic communication should be regarded as an integral component of preoperative anesthesia care rather than as an informal interaction. A standardized communication approach incorporating self-introduction, assessment of concerns, clear procedural explanations, confirmation of understanding, empathic listening, and psychological reassurance may help prepare patients cognitively, emotionally, and behaviorally for spinal anesthesia. Nurse anesthetists should also adapt the amount and style of information to the patient's age, educational background, previous surgical experience, and expressed concerns. Future multicentre prospective studies should use continuous questionnaire scores and multivariable analysis to determine whether therapeutic communication remains independently associated with psychological readiness after relevant patient and procedural factors are controlled.

Implication and limitation

The findings support incorporating structured therapeutic communication into routine preoperative anesthesia care, including clear procedural explanations, active listening, empathy, confirmation of patient understanding, and psychological reassurance before spinal anesthesia. However, the cross-sectional design prevents causal conclusions, while the single-centre setting, purposive sampling, and relatively small sample of 75 participants limit the generalizability of the results. Both therapeutic communication and psychological readiness were assessed using self-reported questionnaires, which may have been influenced by recall, social desirability, and individual interpretation, and the absence of participants in the poor-communication and low-readiness categories may have restricted data variability. Potential confounding factors, including age, educational level, previous surgical experience, sex, type of surgery, family support, and baseline anxiety, were not controlled analytically. Future multicentre prospective studies should use larger probability-based samples, continuous questionnaire scores, validated instruments with reported reliability, and multivariable analyses to clarify the independent association between therapeutic communication and psychological readiness.

Relevance for Practice

Nurse anesthetists should integrate structured therapeutic communication into routine preoperative care for patients receiving spinal anesthesia, particularly through clear procedural explanations, active listening, empathy, reassurance, and confirmation of patient understanding. These practices may help patients feel safer, better informed, and more psychologically prepared to cooperate during spinal positioning, needle insertion, and the intraoperative period while remaining conscious. Communication should be individualized according to patients' educational level, previous surgical experience, emotional responses, and expressed information needs. Standardized communication protocols and regular communication-skills training may therefore strengthen patient-centered anesthesia care and support psychological readiness before surgery.

Conclusion

Nurse anesthetists' therapeutic communication was significantly and positively associated with psychological readiness among preoperative patients receiving spinal anesthesia ($p = 0.681$, $p < 0.001$). Patients who perceived communication as good were more likely to demonstrate high psychological readiness before surgery. These findings support the integration of clear information, empathy, active listening, reassurance, and confirmation of understanding into routine preoperative anesthesia care. Because this study used a cross-sectional design, the findings should be interpreted as an association rather than evidence that therapeutic communication directly causes improved psychological readiness.

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Author Contribution

Muhammad Subhan Syawalani contributed to the conceptualization, methodology, investigation, data collection, data curation, formal analysis, and preparation of the original manuscript draft. Ellyda Septiani Pramita contributed to the conceptualization, methodology, supervision, validation, interpretation of the findings, and critical revision of the manuscript. Vita Purnamasari contributed to the methodology, validation, interpretation of the findings, and critical review of the manuscript. All authors reviewed and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

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Declaration of Conflicting Interest

The authors declare no conflict of interest.

Declaration of Use of AI in Scientific Writing

The authors declare that generative AI and AI-assisted technologies were used to support language editing and grammatical refinement of the manuscript.

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