

# The relationship between nurses' therapeutic communication and patients' the level of anxiety of patients in facing invasive nursing actions for catheter insertion at PKU Muhammadiyah Hospital, Gamping

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## Abstract

Quality nursing services depend not only on technical skills but also on nurses' communication abilities, particularly therapeutic communication aimed at providing comfort and reducing patient anxiety. Invasive procedures such as urinary catheter insertion can cause anxiety as they are often perceived as frightening and painful. This study aims to determine the relationship between nurses' therapeutic communication and patients' anxiety levels in facing invasive nursing procedures of urinary catheter insertion at PKU Muhammadiyah Gamping Hospital. This quantitative study employed a descriptive correlational design with a cross-sectional approach. A sample of 57 respondents was selected through accidental sampling from 130 adult patients who underwent urinary catheter insertion. Data were collected using a therapeutic communication questionnaire and an anxiety questionnaire adapted from the State-Trait Anxiety Inventory (STAI). Data were analyzed using the Spearman Rank test. The majority of nurses' therapeutic communication was categorized as good (86%), and patients generally experienced mild anxiety. The Spearman Rank test yielded a p-value of 0.003, indicating a significant relationship between nurses' therapeutic communication and patients' anxiety levels in facing invasive nursing procedures of urinary catheter insertion at PKU Muhammadiyah Gamping Hospital. It is recommended that hospitals regularly evaluate the practice of nurses' therapeutic communication and encourage further research on other factors affecting patient anxiety.

**Keywords:** Therapeutic Communication; Anxiety; Urinary Catheter; Invasive Procedure

## 1. Introduction

According to the Republic of Indonesia Law No. 17 of 2023 on health, Article 1 paragraph 10, a hospital is defined as a type of healthcare service that provides promotive, preventive, curative, rehabilitative, and palliative services through the availability of inpatient, outpatient, and emergency care services (JDIH BPK, 2023). Patients in hospitals require intensive treatment and care due to changing clinical conditions (Ningrum et al., 2023). Invasive procedures are medical actions that directly affect the integrity of a patient's body tissues (Rahmania et al., 2023). Among various invasive nursing procedures, urinary catheter insertion is one of the most common. This procedure involves inserting a plastic tube, tailored to each patient's size, into the bladder through the urethra (Vellyana & Gunawan, 2020).

According to data from the Centers for Disease Control and Prevention (CDC) last updated in 2019, approximately 15–25% of hospitalized patients receive urinary catheterization (CDC, 2020). S. Saint et al. (2016, as cited in Hu et al., 2022) reported that in clinical practice, about 19.8–61.1% of hospitalized patients are fitted with urinary catheters. The global urinary catheter market was projected to grow from \$30.8 billion in 2022 (BCC Research, 2022). Katayama et al. (2022) found that the prevalence of urinary catheter use in participating Japanese hospital wards ranged between 5% and 19%. In Indonesia, more than 50,000 catheter insertions are performed annually, with 4% of these for home care and 25% for acute care (Tiara Putri et al., 2022). At Primaya Bhakti Wara Hospital Pangkalpinang, in 2021, 663 catheter insertions accounted for 66% of 1,002 patients, and in 2022, 69% of 1,050 patients underwent catheter insertion (Malzaliana et al., 2023).

Urinary catheterization helps individuals empty their bladder (A. Nugraha et al., 2019). However, not all patients respond positively to hospital care involving this procedure (Damanik, 2020). One notable drawback is anxiety (A. Nugraha et al., 2019), which is a common

mental health concern globally (Marlita, Anita & Kurnia, 2023).

The World Health Organization (WHO) estimates that around 4% of the global population suffers from anxiety disorders (WHO, 2023). According to WHO reports, of the 1 billion people living with mental disorders, 15% are working-age adults (WHO, 2022). In 2019, 301 million people worldwide were diagnosed with anxiety disorders, making it the most common mental health disorder. Indonesia remains among the countries with poor prevention and treatment measures (Lataima et al, 2020). A study by Huzaifah & Iswara (2023) found that 60.4% of patients awaiting catheter insertion experienced moderate anxiety. Anxiety may result from skin tissue damage caused by the procedure, which can lead to pain (Fajarwati et al., 2022). Proper catheter insertion and maintenance in accordance with standard procedures are essential to ensuring patient safety and preventing complications (Aji, 2022).

The Indonesian Ministry of Health Regulation No. 27 of 2017 on infection prevention and control guidelines in healthcare facilities outlines the indications and procedures for urinary catheter insertion to prevent urinary tract infections (UTIs). It emphasizes the importance of hand hygiene using antiseptics, proper drying, and the use of sterile gloves before the procedure (Permenkes, 2017). The Joint Commission International (JCI) formulated the International Patient Safety Goals (IPSGs), a set of six strategic objectives intended to resolve issues in patient safety and enhance the overall quality of healthcare services. The Joint Commission International (JCI) includes "Improve Effective Communication" as the second point in its International Patient Safety Goals (IPSGs) to address patient safety issues (JCI, 2024). Ineffective communication can compromise patient safety during medical procedures (Maulida & Damaiyanti, 2021) and contribute to increased anxiety. Nurses can help reduce this anxiety by providing therapeutic communication and health education to patients and their families (Febriyanti et al., 2020).

Therapeutic communication plays an important role in patient recovery due to its therapeutic effects (Machrom & Destrity, 2023). Building positive relationships is closely tied to communication, especially in reducing patient anxiety. It is crucial for nurses to maintain communication with patients to ensure comfort and prevent feelings of distress (Huzaifah & Iswara, 2023). Nurses who apply therapeutic communication may encounter barriers in its implementation; however, these challenges can be managed with patience and empathy (Maya & Wijaya, 2023). Warmth and friendliness are always expected by patients, especially when they are ill or anxious. A strong understanding of therapeutic communication principles positively impacts patient outcomes (Arda, 2019). Interview with patients at PKU Muhammadiyah Gamping Hospital revealed that, despite receiving therapeutic communication, six patients still experienced anxiety, while two felt calm and ready for catheter insertion. Five out of eight patients indicated that therapeutic communication was generally good in terms of providing information and explaining procedures. However, some nurses failed to introduce themselves, establish time agreements, or display friendliness, leading three patients to report a neutral response. The hospital periodically conducts therapeutic communication training every six months or when new staff are hired. This training includes both theoretical and practical sessions.

Based on these observations and findings, the researchers were motivated to conduct this study entitled: "The Relationship Between Nurses' Therapeutic Communication and Patients' Anxiety Levels in Facing Invasive Nursing Procedures of Catheter Insertion at PKU Muhammadiyah Gamping Hospital."

## 2. Methods

This research is a non-experimental quantitative study with a cross-sectional approach. The study was conducted at PKU Muhammadiyah Gamping Hospital in July 2025. The population consisted of patients with urinary catheters in place. Population size was obtained from data across four adult wards at PKU Muhammadiyah Gamping Hospital during February 2025, with a total of 130 patients fitted with urinary catheters. The research sample was selected using the Accidental Sampling technique as many as 57 respondents. The sample consisted of 57 respondents selected using accidental sampling. Inclusion criteria were: patients willing to participate, patients with urinary catheters inserted for at least 24 hours, and patients able to communicate well during the

study.

Therapeutic communication data were collected using a questionnaire adapted from Ningsih (2015, in Anzuhraful, 2019) consisting of 13 statements, assessed on a 1–4 Likert scale. Positive (favourable) statements were scored: always (4), often (3), sometimes (2), never (1). Negative (unfavourable) statements were scored in reverse. Scores were categorized as good (39–52), moderate (26–38), and poor (<25). The questionnaire had been validated by experts in the field.

Anxiety data were collected using a modified State-Trait Anxiety Inventory (STAI) from Anindya (2016, in Adryansyah, 2023), translated into Indonesian and modified by the researcher to 16 items (e.g., tension, fear, worry, restlessness). Positive statements were scored: not at all (4), slightly (3), moderately (2), very much so (1). Negative statements were scored in reverse. Scores were categorized as mild anxiety (13–28), moderate (29–44), and severe (45–60). This instrument that also undergone expert validation.

Data were processed and analysed using univariate and bivariate analysis. Univariate analysis described respondent characteristics (age, gender, hospitalization experience) and both independent (therapeutic communication) and dependent (anxiety) variables. Bivariate analysis examined the relationship between therapeutic communication and anxiety levels using the non-parametric Spearman Rank test. The analysis was conducted using the non-parametric Spearman test. This study obtained ethical approval from the Research Ethics Committee of PKU Muhammadiyah Gamping Hospital and complied with ethical principles, under Approval No.190/KEP-PKU/VI/2025.

### 3. Results and Discussion

#### 3.1. Result

**Table 1.** Respondent Characteristics by Age, Gender, and Hospitalization Experience

Characteristics	Frequency (F)	Percentage (%)
<b>Age</b>		
Early adulthood (26–35)	26	45.6
Late adulthood (36–44)	31	54.5
<b>Total</b>	<b>57</b>	<b>100</b>
<b>Gender</b>		
Male	35	61.4
Female	22	38.6
<b>Total</b>	<b>57</b>	<b>100</b>
<b>Hospitalization Experience</b>		
Ever	33	57.9
Never	24	42.1
<b>Total</b>	<b>57</b>	<b>100</b>

Based on Table 1, the results indicate that the majority of respondents were in the late adulthood age group (36–44 years), totaling 31 individuals (54.4%). Regarding gender characteristics, most respondents were male, accounting for 35 individuals (61.4%). Further more, the characteristics of inpatient experience revealed that the majority of respondents had been hospitalized previously, with 33 individuals (57.9%).

**Table 2.** Nurses' Therapeutic Communication

Therapeutic Communication	Frequency (F)	Percentage (%)
Good	49	86
Moderate	8	14
<b>Total</b>	<b>57</b>	<b>100</b>

Based on Table 2, the results of the study show that the majority of nurses had good therapeutic communication, with 49 respondents (86%). Meanwhile, a smaller portion had moderate therapeutic communication, totaling 8 respondents (14%), and none exhibited poor therapeutic communication (0%).

**Table 3.** Patients' Anxiety Levels in Facing Catheter Insertion

Anxiety Level	Frequency (F)	Percentage (%)
Mild	48	84.2
Moderate	8	14
Severe	1	1.8
<b>Total</b>	<b>57</b>	<b>100</b>

Based on Table 3, the results of the study indicate that the majority of respondents fell into the mild anxiety category, with 48 respondents (84.2%), while the smallest number were in the severe anxiety category, with only 1 respondent (1.8%).

**Table 4.** Relationship Between Nurses' Therapeutic Communication and Patients' Anxiety Levels in Facing Catheter Insertion

Therapeutic Communication	Anxiety in Patients Undergoing Catheterization						Total		P-Value	Correlation Coefficient
	Mild		Moderate		Severe		f	%		
	f	%	f	%	f	%				
Good	44	89.8	5	10.2	0	0	49	100	0.003	0.391
Moderate	4	50	3	37.5	1	12.5	8	100		
<b>Total</b>	<b>48</b>	<b>84.2</b>	<b>8</b>	<b>14</b>	<b>1</b>	<b>1.8</b>	<b>57</b>	<b>100</b>		

Based on Table 4, it can be seen that among respondents who received good therapeutic communication, the majority experienced mild anxiety, totaling 44 individuals (89.8%). Among respondents who received moderate therapeutic communication, most experienced mild anxiety with 4 individuals (50%), followed by 3 individuals (37.5%) experiencing moderate anxiety, and 1 individual (1.8%) experiencing severe anxiety.

Before conducting bivariate analysis, the researcher first performed a normality test to determine whether the research data were normally distributed or not. The normality test results showed a value of 0.000, which is less than 0.05. This indicates that the data were not normally distributed, and therefore, bivariate statistical analysis was continued using the non-parametric Spearman rank test.

The results of the Spearman rank test on the relationship between nurses' therapeutic communication and patients' anxiety levels in facing invasive nursing procedures of catheterization at RS PKU Muhammadiyah Gamping, as presented in Table 4.5, showed a correlation coefficient of 0.391 with a significance value of 0.003. Since the significance value (p) is less than 0.05, then null hypothesis (H<sub>0</sub>) is rejected, indicating that there is a significant relationship between nurses' therapeutic communication and patients' anxiety levels during the invasive nursing procedure of catheterization at RS PKU Muhammadiyah Gamping. The Spearman rank correlation coefficient of 0.391 indicates a moderate strength of association between nurses' therapeutic communication and patients' anxiety levels, as it falls within the range of 0.26 to 0.50.

### 3.2. Discussion

The results of this study at PKU Muhammadiyah Gamping Hospital show that out of 57 respondents, the majority (86%) rated nurses' therapeutic communication as good. This finding is consistent with Mahyuni (2023), who found that 60.9% of patients undergoing invasive procedures such as surgery rated nurses' therapeutic communication as good.

Additional analysis showed that 8 respondents (14%) rated the nurses' therapeutic communication as moderate. The questionnaire results indicated that the communication gaps were mainly found in the work stage, specifically in explaining the effects and types of catheters to be used by the patients. The side effects experienced by patients with catheter insertion included is comfort and the risk of urinary tract infections (UTI), which can lead to complications such as Catheter-Associated Urinary Tract Infections (CAUTI) (Gould et al., 2017, cited in Fauziah et al.,

2022). Furthermore, there is a risk of bacteriuria due to prolonged catheterization (Ghinorawa (2015), cited in Fauziah et al., (2022)). Regarding catheter types, according to Adelia et al. (2023), there are indwelling, supra-pubic, and cleanin termittent self-catheterization (CISC). Each type has different functions; therefore, nurses need to explain the catheter types and their side effects so that patients understand the purpose of the catheter and its potential side effects.

Communication influences human behaviour in the healing process. Therefore, nurses should master communication techniques suited to individual patient characteristics (Sarfika et al., 2018). Therapeutic communication in nursing is goal-oriented and aims to foster trust, mutual understanding, and effective interaction (Putri & Suwadnyana, 2020). Effective therapeutic communication is built through trust, appropriate strategies, and the application of communication principles (Fatima & Widianti, 2024). Empathy and active listening are fundamental in establishing trust (Rheu et al., 2021, in Fatima & Widianti, 2024). Nurses should be gentle and patient when listening to patients' concerns, providing clear and understandable responses (Rahmi & Diana, 2022).

This study found that the majority of nurses demonstrated good the rapeutic communication. This indicates that nurses apply the principles of therapeutic communication, especially during the orientation phase, by establishing a professional and empathetic trusting relationship with patients while performing nursing care, including invasive procedures such as catheter insertion. Furthermore, based on preliminary studies, the management of RS PKU Muhammadiyah regularly conducts training sessions on therapeutic communication—including

both theoretical material and practical exercises—every six months or whenever new staff join. RS PKU Muhammadiyah Gamping also has a standard operating procedure (SOP) or specific guidelines regarding therapeutic communication, accompanied by monitoring and evaluation related to these guidelines. However, the monitoring and evaluation activities are not yet conducted regularly or at consistent intervals. Routine monitoring and evaluation of therapeutic communication need to be implemented to assist nurses in improving and maintaining the rapeutic communication for hospital service quality.

The success of therapeutic communication is supported by several factors, including culture, education, perception, time, distance, and experience. According to Debora (2007, cited in Pertiwi et al., 2022), understanding the diverse cultural backgrounds of patients is essential to ensure smooth communication. Nurses need to respect the uniqueness of each patient as part of a holistic approach. According to Suranata et al. (2024), the level of education influences an individual's knowledge in providing information. Therefore, nurses need to adjust the information delivery according to each patient's educational level. Additionally, nurse education through training is also a supporting factor that enables nurses to have a high level of knowledge in delivering clear information and applying good therapeutic communication (Yulianti & Purnamawati, 2019).

Using easy-to-understand language, timely delivery of information, and maintaining appropriate interpersonal distance support successful communication. The distance used by nurses is between 0 cm and 45 cm. A distance of 0 cm means the nurse interacts with the patient while touching the patient's hand as an expression of care (Julita et al., 2023).

Suranata et al. (2024) also mentioned that past experience provides learning for nurses to recognize successes and failures in assessing understanding of what is happening. Adequate practical experience will enable nurses to improve the quality of communication (Mersha et al., 2023). Furthermore, according to Setyowati & Indawati (2022), patients who have been previously hospitalized tend to have an idea of the procedure that will be performed. Thus, they are more prepared to face the procedure, which facilitates nurses in conducting the rapeutic communication since the patient has prior experience. Another factor affecting the success of the rapeutic communication is the environment. Maintaining patient privacy and consider ringenviron mental conditions can influence the effectiveness of communication. Noise from the surroundings may disrupt communication (Suranata et al., 2024).

The study at RS PKU Muhammadiyah Gamping showed that among the 57 respondents, most patients had mild anxiety levels (84.2%). This finding aligns with the study by Juniyarti & Huzafah (2023), which showed that 91.4% of patients undergoing invasive procedures such as

infusion insertion reported mild anxiety. Mild anxiety is characterized by signs such as fatigue, slight trembling in the hands, inability to sit still, and occasionally high-pitched voice (Setyananda et al., 2021). According to Clark & Berk, the anxiety mechanism developed includes stimulus activation, perceived threat, activation of primitive response systems, avoidance behavior, reinforcement of insecurity, and increased anxiety regarding new stimulus activation (returning to the first stage). Individuals without anxiety disorders can manage these mechanisms well and can distinguish when perceived threats are disproportionate to external situations (Calicchio, 2022).

Anxiety levels are influenced by age. In this study, most respondents were in late adulthood (36–44 years). Age is considered a fundamental state of maturity and personal development. This productive age group is more vulnerable to experiencing anxiety (Setyananda et al., 2021). According to Kimmel (2002, cited in Patimah, 2020), age influences anxiety, especially during adulthood. Although adults face various challenges affecting mental health (Niriyah et al., 2024), Patimah's (2020) study noted that not all productive-age individual experience severe anxiety; anxiety tends to decrease with increasing age.

Another factor influencing anxiety is gender. In this study, the majority of respondents were male, totaling 35 individuals (61.4%). This finding aligns with Rosa & Ulfa (2020), who reported that catheterization is more commonly performed on males (approximately 63.16%). This result is also supported by Lestari, Limson & Agustina (2020), who found that females (90%)

experience higher anxiety than males, meaning males generally have mild anxiety. Saputri (2016, <https://doi.org/10.37341/jkg.v5i2> cited in Karno & Thalib, 2023) explained that adult males tend to have stronger mental resilience against threats compared to females. Therefore, males tend to experience milder anxiety compared to females.

Another factor influencing anxiety is experience. In this study, 57.9% of respondents had a history of hospitalization. This finding aligns with the study by Setyowati & Indawati (2022), which showed that respondents with experience undergoing invasive procedures exhibited mild anxiety (51.6%). According to the researchers, experience provides individuals with an understanding of events they have encountered, making them better prepared to face similar situations if they occur again. Experience strengthens individuals both physically and mentally, thereby reducing existing anxiety. The results of this study conducted at RS PKU Muhammadiyah Gamping showed a significance value of 0.003. Since the significance value ( $p$ ) is less than 0.05, the null hypothesis ( $H_0$ ) is rejected, indicating a significant relationship between nurses' therapeutic communication and patients' anxiety levels in facing invasive nursing procedures of catheterization at RS PKU Muhammadiyah Gamping. These findings are consistent with the study by Pringgayuda et al., (2020), which reported a significance value of 0.00, indicating a relationship between therapeutic communication and patients' anxiety levels during invasive procedures for prostate enlargement surgery.

The results of this study also showed that 44 respondents who received good therapeutic communication experienced mild anxiety levels (89.8%), while respondents who received moderate therapeutic communication experienced mild anxiety in 4 individuals (50%) and moderate anxiety in 3 individuals (37.5%). These findings are consistent with previous research reporting that respondents receiving good therapeutic communication experienced mild anxiety levels (91.3%). This study is supported by Kaplan & Sadock (2015) and Harlina & Aiyub (2018), cited in Rosyidah et al. (2023), who stated that one of the factors influencing anxiety is therapeutic communication. Therapeutic communication is important to implement because it helps patients understand the procedures being performed and encourages patients to express their feelings (Grant, 1981, cited in Videbeck, 2019).

Some patients may not respond positively to hospital care procedures (Damanik, 2020). Anxiety often occurs in individuals undergoing treatment. Therefore, the application of appropriate therapeutic communication techniques can help reduce anxiety levels. Conversely, if non-therapeutic communication is used, anxiety levels may increase. The study by Muliani et al., (2020) also reported that therapeutic communication influences patient changes, as communication—both verbal and non-verbal—is inseparable from daily life.

Therapeutic communication has specific goals and functions as therapy for patients and their

families; therefore, its implementation must be well-planned and structured (Videbeck, 2019). The communication process consists of five stages: pre-interaction, orientation, working, termination, and evaluation (Zuhroidah et al., 2024). Through these stages, nurses consistently strive to help resolve patient issues via planned communication (Videbeck, 2019). Professional communication is also a form of healthcare service. It enables the delivery of effective health care to patients. Demonstrating care and compassion is part of the nurse's role in supporting the healing process (Welch, 2022).

The limitations of this study include the age range, which only involved adult patients; therefore, the results cannot be generalized to other age groups such as adolescents or the elderly. Additionally, the study was conducted only in inpatient wards and did not include other units such as the emergency room, emergency department, or intensive care unit. External factors such as family support and economic status were also not analyzed, although they may potentially influence patient anxiety.

#### 4. Conclusion

Based on the results of the study conducted at RS PKU Muhammadiyah Gamping regarding the relationship between nurses' therapeutic communication and patients' anxiety levels.

In facing invasive nursing procedures of catheterization, it can be concluded that the majority of nurses demonstrated good therapeutic communication (86%). On the other hand, most patients as respondents exhibited mild anxiety levels (84.2%) when facing the invasive catheterization procedure. Statistical analysis showed a significant relationship between nurses' therapeutic communication and patients' anxiety levels, with a moderate strength of association.

#### Recommendations

The hospital has conducted training on nurses' therapeutic communication; however, monitoring and evaluation have not been carried out regularly. Therefore, the hospital needs to implement routine evaluations regarding the guidelines for clinical practice in the future. This study is expected to serve as a reference for further research to explore other factors influencing patient anxiety, such as family support, economic conditions, and education. The use of mixed methods is also recommended to gain a deeper understanding of patients' perceptions.

#### Acknowledgment

Nuraini Widya Sari as a researcher expresses her gratitude to Rosiana Nur Imallah, S.kep.,Ns., M.kep and Rohayati Masitoh, S.kep., Ns., M.M for taking the time to provide guidance, direction, and input. I would also like to thank the training at Muhammadiyah Gamping Hospital for providing the opportunity to conduct research in the inpatient ward, as well as the research respondents who agreed to be part of this study. Last but not least, I thank my friends who have provided support.

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