The Relationship Between Therapeutic Communication and Anxiety Levels among CAD Patients Before PCI

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Abstract

Therapeutic communication is an essential component of nursing care that facilitates trust, improves patient understanding, and provides psychological support. Patients with Coronary Artery Disease (CAD) scheduled for Percutaneous Coronary Intervention (PCI) frequently experience anxiety due to uncertainty regarding the procedure, possible complications, and treatment outcomes. Effective nurse–patient communication is expected to reduce anxiety and improve psychological readiness before intervention. This study aimed to determine the relationship between nurses' therapeutic communication and anxiety levels among patients with CAD prior to PCI. A quantitative correlational study with a cross-sectional approach was conducted among 82 patients who were scheduled to undergo PCI. Participants were recruited using consecutive sampling. Data were collected using a therapeutic communication questionnaire and an anxiety questionnaire. Descriptive statistics were used to summarize respondent characteristics, while the relationship between variables was analyzed using Spearman's Rank correlation with a significance level of 0.05. Most respondents perceived nurses' therapeutic communication as good (84.1%), while mild anxiety was the predominant anxiety level (69.5%). The mean therapeutic communication score was 53.52±7.263, whereas the mean anxiety score was 29.41±10.226. Spearman's Rank correlation analysis revealed no statistically significant relationship between therapeutic communication and anxiety level ($r = -0.084$; $p = 0.454$). Nurses therapeutic communication was not significantly associated with anxiety levels among CAD patients prior to PCI. Anxiety experienced by patients before undergoing PCI is likely influenced by multiple factors beyond therapeutic communication, including individual characteristics, previous medical experiences, family support, coping mechanisms, and clinical conditions. Further studies

should investigate these variables to obtain a more comprehensive understanding of factors influencing pre-procedural anxiety.

Keywords: Therapeutic communication, anxiety, CAD

Introduction

Coronary Artery Disease (CAD) remains one of the leading causes of morbidity and mortality worldwide and constitutes a major public health challenge. CAD occurs when atherosclerotic plaque narrows or obstructs the coronary arteries, reducing myocardial blood flow and oxygen supply. Progressive obstruction may lead to acute coronary syndrome, myocardial infarction, heart failure, and premature death if not treated promptly. Percutaneous Coronary Intervention (PCI) has become one of the primary revascularization procedures for restoring coronary blood flow and improving clinical outcomes among patients with obstructive coronary artery disease [1].

Patients who are scheduled to undergo PCI generally require hospital admission before the procedure for diagnostic examinations, informed consent, medication preparation, and pre-procedural monitoring. During this preparation period, patients frequently experience psychological distress, particularly anxiety. Anxiety before invasive cardiac procedures may arise from fear of pain, uncertainty regarding procedural success, possible complications, and concerns about survival. Such psychological responses are clinically important because anxiety activates the sympathetic nervous system, increasing heart rate, blood pressure, myocardial oxygen demand, and the risk of adverse cardiovascular events [2].

Therapeutic communication represents one of the fundamental competencies of professional nursing practice. It refers to purposeful interpersonal communication that aims to establish mutual trust, facilitate emotional expression, provide accurate information, and assist patients in coping with illness. Effective therapeutic communication enables nurses to understand patients' concerns while encouraging patients to participate actively in their care. Previous studies have demonstrated that therapeutic communication contributes to improved patient satisfaction, reduced emotional distress, and enhanced treatment adherence across various healthcare settings [3,4].

Several previous studies have reported significant associations between thera-

peutic communication and anxiety reduction among patients undergoing invasive procedures. Research involving patients undergoing cardiac catheterization and preoperative procedures demonstrated that better therapeutic communication was associated with lower anxiety levels. These findings suggest that communication serves as an important non-pharmacological nursing intervention in preparing patients psychologically before medical procedures. However, inconsistent findings across different clinical settings indicate that anxiety may also be influenced by numerous demographic, psychological, and clinical factors, warranting further investigation among patients undergoing elective PCI [5, 2,6].

At the cardiac inpatient ward of RSUP Prof. Dr. I.G.N.G. Ngoerah, a substantial number of CAD patients undergo PCI each year. Preliminary observations conducted before this study indicated that anxiety was experienced by nearly all patients awaiting PCI, although the severity varied from mild to severe. Considering the increasing number of PCI procedures and the important role of nurses in providing psychological support, evaluating the relationship between therapeutic communication and patient anxiety is necessary to improve evidence-based nursing practice.

Therefore, this study aimed to determine the relationship between nurses' therapeutic communication and anxiety levels among patients with Coronary Artery Disease prior to Percutaneous Coronary Intervention. The findings are expected to contribute to nursing knowledge regarding psychological care for cardiovascular patients and provide evidence for improving patient-centered nursing interventions before invasive cardiac procedures.

Method

1. Research design

This study employed a quantitative correlational design using a cross-sectional approach to examine the relationship between nurses' therapeutic communication and anxiety levels among patients with Coronary Artery Disease (CAD) prior to Percutaneous Coronary Intervention (PCI). The cross-sectional approach enabled the measurement of both variables at a single point in time before the PCI procedure [7].

2. Setting and samples

The study was conducted from May to June 2026 in a cardiac inpatient ward of a

tertiary referral hospital in Bali, Indonesia. To maintain anonymity in accordance with the journal guidelines, the specific hospital name is omitted in this manuscript.

The study population consisted of patients diagnosed with Coronary Artery Disease who were scheduled to undergo PCI. Participants were recruited using a consecutive sampling technique until the required sample size was achieved. A total of 82 respondents met the eligibility criteria and agreed to participate in the study.

The inclusion criteria were patients diagnosed with CAD who were scheduled for elective PCI, were conscious, able to communicate effectively, and agreed to participate by signing informed consent. Patients with severe cognitive impairment, unstable clinical conditions, or incomplete questionnaire responses were excluded from the study.

3. Measurement and data collection

Data were collected using two instruments:

1. Therapeutic Communication Questionnaire, used to measure patients' perceptions of nurses' therapeutic communication. The questionnaire generated total scores that were categorized into poor, fair, and good communication.
2. Anxiety Questionnaire, used to assess patients' anxiety levels before PCI. Anxiety scores were categorized into mild, moderate, and severe anxiety.

Before data collection, respondents received an explanation regarding the purpose and procedures of the study. After providing written informed consent, participants completed the questionnaires under researcher supervision. All questionnaires were checked for completeness before data analysis.

3. Data analysis;

Data were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were presented as frequencies, percentages, means, standard deviations, minimum values, and maximum values. The relationship between therapeutic communication and anxiety level was analyzed using Spearman's Rank Correlation because the data were not normally distributed. Statistical significance was determined at $p < 0.05$

Results

Respondent Characteristics

A total of 82 respondents participated in the study. The characteristics of respondents according to sex and age are presented in Table 1.

Table 1. Characteristics of Respondents (N = 82)

Characteristics of Respondents		n	%
Sex	Male	65	79,27%
	Female	17	20,73%
Age group	25-45 th	5	6,10%
	46-65 th	54	65,85%
	>66 th	23	28,05%

Therapeutic Communication

Most respondents perceived therapeutic communication provided by nurses as good (84.1%), while only a small proportion perceived it as fair or poor.

Table 2. Distribution of Therapeutic Communication (N = 82)

Category	n	%
Good	69	84.1
Fair	10	12.2
Poor	3	3.7
Total	82	100

Anxiety Level

The majority of respondents experienced mild anxiety before undergoing PCI.

Table 3. Distribution of Anxiety Level (N = 82)

Anxiety Level	n	%
Mild	57	69.5
Moderate	18	22.0
Severe	7	8.5
Total	82	100

Descriptive Statistics

The mean therapeutic communication score was 53.52 ± 7.263, while the mean anxiety score was 29.41 ± 10.226.

Table 4. Descriptive Statistics of Study Variables

Variable	Minimum	Maximum	Mean ± SD
Therapeutic Communication	27	59	53.52 ± 7.263
Anxiety	20	63	29.41 ± 10.226

Correlation Between Therapeutic Communication and Anxiety

Spearman's Rank correlation analysis showed a correlation coefficient of −0.084 with a p-value of 0.454. The p-value exceeded the significance level of 0.05, indicating that there was no statistically significant relationship between therapeutic communication and anxiety level among CAD patients before PCI.

Table 5. Relationship Between Therapeutic Communication and Anxiety

Variables	Correlation coefficient (r)	p-value	Interpretation
Therapeutic Communication – Anxiety	-0.084	0.454	Not Significant

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Discussion

This study found that most respondents perceived nurses' therapeutic communication as good (84.1%), while most patients experienced mild anxiety (69.5%) before undergoing Percutaneous Coronary Intervention (PCI). Despite these findings, Spearman's Rank correlation analysis demonstrated no statistically significant relationship between therapeutic communication and anxiety level among patients with Coronary Artery Disease (CAD) prior to PCI ($r = -0.084$; $p = 0.454$).

The high proportion of respondents who perceived therapeutic communication as good indicates that nurses had implemented therapeutic communication appropriately during pre-procedural nursing care. Therapeutic communication enables nurses to establish trust, provide clear information regarding medical procedures, and encourage patients to express their concerns. Such communication plays an important role in delivering holistic nursing care by addressing not only physical needs but also psychological and emotional aspects. However, although communication quality was generally perceived as good, it did not significantly influence patients' anxiety levels in this study. (Handayani et al., 2023; Rachmalia et al., 2021).

Most respondents experienced only mild anxiety before PCI. This finding may indicate that patients had already received adequate information regarding the procedure and had sufficient time to prepare psychologically before intervention. Furthermore, elective PCI is generally scheduled after comprehensive clinical evaluation, allowing healthcare professionals to provide repeated education and counseling. These factors may contribute to relatively low anxiety levels regardless of the perceived quality of therapeutic communication.

The absence of a significant relationship suggests that anxiety among CAD pa-

tients awaiting PCI is a multifactorial phenomenon. Anxiety prior to invasive cardiac procedures may be influenced by various factors including age, previous PCI or cardiac catheterization experience, disease severity, educational level, coping mechanisms, family support, socioeconomic status, cultural beliefs, and individual perceptions regarding illness and treatment. Consequently, therapeutic communication alone may not sufficiently explain variations in anxiety levels among patients. (Listiana et al., 2019; Nurfauziah, 2023).

The present findings differ from several previous studies that reported a significant relationship between therapeutic communication and patient anxiety. Rahmawati (2024) found that better therapeutic communication was associated with lower anxiety levels among patients undergoing cardiac catheterization [6], while Farid et al. (2022) also reported a significant association between therapeutic communication and anxiety among preoperative patients [5]. These discrepancies may be attributed to differences in patient characteristics, research settings, measurement instruments, sample size, and psychological conditions of respondents. In the present study, most respondents had already demonstrated good communication and mild anxiety, resulting in relatively limited variability that may have reduced the likelihood of detecting a statistically significant correlation.

From a nursing perspective, although no statistically significant relationship was identified, therapeutic communication should remain an integral component of patient-centered nursing care. Effective communication contributes to patient satisfaction, enhances trust in healthcare providers, facilitates informed decision-making, and improves patient participation during treatment. Therefore, therapeutic communication should continue to be implemented alongside other psychological interventions, such as pre-procedural education, emotional support, family involvement, relaxation techniques, and individualized counseling, to optimize patients' psychological readiness before PCI [1,4].

The findings of this study also suggest opportunities for future research involving multivariate analyses that incorporate demographic, psychosocial, and clinical variables to better explain factors associated with anxiety among patients with Coronary Artery Disease undergoing invasive cardiovascular procedures.

Limitation

This study has several limitations. First, the cross-sectional design only measured therapeutic communication and anxiety at one point in time, preventing causal inference between the variables. Second, the study was conducted in a single cardiac inpatient ward, limiting the generalizability of findings to other healthcare settings. Third, anxiety may have been influenced by factors not examined in this study, including previous PCI experience, educational background, family support, coping strategies, disease severity, and psychological characteristics. Future studies are recommended to include these variables using larger multicenter samples.

Conclusion

Most patients with Coronary Artery Disease scheduled for Percutaneous Coronary Intervention perceived nurses' therapeutic communication as good and experienced mild anxiety before the procedure. Spearman's Rank correlation analysis demonstrated no statistically significant relationship between therapeutic communication and anxiety level ($r = -0.084$; $p = 0.454$). These findings indicate that anxiety among patients awaiting PCI is likely influenced by multiple psychological, social, and clinical factors beyond therapeutic communication alone. Further research involving broader predictive variables is recommended to improve psychological nursing interventions for patients undergoing invasive cardiac procedures.

Ethical Considerations

Ethical approval for this study was obtained from the Health Research Ethics Committee of RSUP Prof. Dr. I.G.N.G. Ngoerah, and permission to conduct the study was granted by the hospital administration before data collection. All participants received verbal and written explanations regarding the study objectives and procedures before signing informed consent. Respondents participated voluntarily and were informed that they could withdraw from the study at any time without consequences. Confidentiality and anonymity of participant data were maintained throughout the research process.

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Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this manuscript.

Author contribution

1. Luh Gede Candra Pratiwi: Conceptualization, methodology, data collection, data analysis, manuscript preparation, and final approval of the manuscript.
2. Ni Komang Sukra Andini: Research supervision, methodology review, manuscript revision, and final approval.
3. I Gede Juanamasta: Research supervision, critical review of the manuscript, interpretation of findings, and final approval.

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