Jurnal Riset Rumpun Ilmu Kesehatan
Volume 3, Nomor 2, Oktober 2024
E-ISSN .: 2828-9374; P-ISSN .: 2828-9366, Hal. 99-108
DOI: https://doi.org/10.55606/jurrikes.v3i2.7851
Tersedia : https://prin.or.id/index.php/JURRIKES

The Effect of Nurses' *Caring Behavior* on Patients' Family Anxiety in Intensive Care Unit (ICU) Room

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Abstract. *Background: Anxiety is frequently experienced by family members of patients admitted to intensive care units (ICUs), largely due to uncertainty regarding the patient's condition and dependence on specialized treatment. Nurses' caring behavior is often regarded as an essential component of supportive care that may help reduce this anxiety. This study examines the association between nurses' caring behavior and the anxiety levels of patients' families in the ICU setting. Methods: A non-experimental research used cross sectional design was employed using purposive sampling. The study involved 30 family members of ICU patients. Data were collected using a validated caring behavior questionnaire and the Hamilton Anxiety Rating Scale (HARS). The Spearman rank correlation test was used for statistical analysis. Results: The findings showed a p-value of 0.505 (> 0.05), indicating that nurses' caring behavior was not significantly associated with the anxiety levels of family members. Conclusion: Nurses' caring behavior did not demonstrate a significant impact on family anxiety in the ICU. Nevertheless, caring practices remain an essential component of holistic nursing care, and their consistent implementation is recommended to support families during critical illness.*

Keywords: *Caring Behavior; ICU; Nurse; Patient Condition; Patient Family Anxiety.*

1. INTRODUCTION

Anxiety is a psychological response characterized by vague, unpleasant feelings of worry and uncertainty, often accompanied by physiological symptoms such as tremors, palpitations, sweating, and rapid breathing (Goodwin Gavin, 2023). It emerges in response to perceived threats whether anticipated or already experienced and may escalate into panic or fear. Anxiety can also manifest as emotional tension, irritability, and heightened sensitivity, typically triggered by internal stressors and external environmental pressures (Budi, 2020).

In the clinical context, especially in intensive care settings, anxiety is a common experience among family members. An initial survey conducted on January 15, 2024 with ten family members in an intensive care unit (ICU) waiting area revealed that most participants reported moderate to severe anxiety. Those with severe symptoms expressed restlessness, fear, intrusive thoughts, irritability, sleep disturbances, reduced concentration, and somatic complaints such as muscle tension, palpitations, cold sweats, abdominal pain, and shortness of breath. These findings support existing evidence that anxiety may affect both psychological and physiological functioning, including increased adrenaline production, heightened alertness, and changes in cardiovascular and metabolic activity (Sari, 2022).

Naskah Masuk: 12 September 2024; Direvisi: 28 September 2024; Diterima: 18 Oktober 2024; Terbit: Oktober 31 2024

Family anxiety in the ICU is commonly triggered by uncertainty regarding the patient's condition, limited knowledge about medical procedures, unfamiliar equipment, restricted visiting hours, and insufficient communication or support from healthcare providers (Muhammad et al., 2020). Without adequate coping mechanisms, family members may experience persistent stress that impairs decision-making and emotional stability(Ginting et al., 2023).

Nurses play a crucial role in moderating family anxiety through caring behaviors and therapeutic communication. Caring, defined as supportive and empathic actions such as kindness, positive engagement, and attentive presence, helps create a sense of safety and emotional comfort for families (Agustin, 2020). Effective family coping can also be strengthened through communication strategies that facilitate emotional expression, understanding, and adaptation to the critical illness situation (Pardede, J. A., Hasibuan, E. K., & Hondro, 2020).

In addition to interpersonal approaches, several therapeutic interventions such as cognitive therapy, relaxation techniques, and autogenic training have been shown to reduce anxiety by promoting calmness, self-regulation, and positive cognitive processing (Abu Bakar, 2022). Therapeutic communication, which follows structured phases including pre-interaction, orientation, working, and termination, supports the development of trust and improves family nurse relationships (Tahir, R., Sartiya Rini, D., Muhsinah, S., & Iqra S, 2022).

The study has a major novelty in the finding that nurses' caring behavior did not show a significant association with the level of family anxiety of patients in the ICU room, with a p-value of 0.505. These results differ from most previous studies that have consistently found that caring nurses has an effect on reducing family anxiety. These non-significant findings contribute to the fact that family anxiety in the ICU is not only influenced by caring behaviors, but also by other factors such as the severity of the patient's condition, information limitations, the pressure of the ICU environment, previous experiences, as well as the family's coping ability. In addition, this study offers a new context because it was conducted on the families of ICU patients at Santa Elisabeth Hospital Medan, a population that has not been studied in detail. Thus, this study provides a new perspective that although the caring behavior of nurses is in the very good category, it does not necessarily reduce family anxiety, so a more comprehensive intervention approach is needed in supporting the psychological condition of families in intensive care units.

Given the high prevalence of anxiety among family members of ICU patients and the essential role of nursing care, investigating the relationship between nurses' caring behavior and family anxiety is vital for improving patient- and family-centered care.

2. MATERIALS AND METHOD

This study is a non-experimental study with a cross sectional design. The cross sectional design was chosen because it was appropriate for the purpose of the study, which was to identify the relationship between the caring behavior of nurses and the level of anxiety of the patient's family in the ICU without performing variable manipulation. This approach allows researchers to measure both variables simultaneously at a single point in time, thus being efficient in describing the actual condition of the patient's family in the ICU. This design is also suitable because researchers want to know if there is a relationship between the two natural variables as they are in a clinical setting, rather than to test causal effects experimentally. In addition, the use of cross sectional design is appropriate because the family population of ICU patients is volatile and does not allow for long-term observation given the varying duration of patient care. Thus, this design provides a fast, practical, and relevant picture of the relationship between nursing care and family anxiety during critical care in the ICU.

The research was conducted in the waiting area of the Intensive Care Unit (ICU) at Santa Elisabeth Hospital Medan between April and May 2024. Based on the results of the study, the ICU room of Santa Elisabeth Hospital Medan has consistently implemented caring behaviors in daily nursing practices. This can be seen from the assessment of the patient's family, where most respondents stated that the nurse showed excellent care. The application of caring in the ICU is reflected in the friendly, friendly, and positive expressions such as the smile given by the nurse when interacting with the family. In addition, nurses provide information about the patient's condition in a clear, honest, and easy to understand manner, thus building trust between family and health workers. Nurses also show empathy, provide emotional support, and respond quickly to family needs, especially when the family needs an explanation or feels anxious about the patient's condition. Through warm communication, attention to the emotional condition of the family, and a professional attitude in respecting every question and need of the family, the implementation of caring in the ICU environment has gone well and contributed to creating a more comfortable atmosphere for the patient's family in the midst of a critical situation.

Purposive sampling was applied to recruit family members of patients who had been admitted to the ICU for a minimum of two days. The study population consisted of 302 patients treated in the ICU during the study period. From this population, a sample of 30 family members meeting the inclusion criteria was selected. The inclusion criteria for this study are the patient's family who accompanied the patient during treatment in the ICU, were in the waiting room during data collection, were able to understand the questionnaire, were willing to be respondents, and the accompanying patient had been treated for at least two days. The exclusion criteria are families who are not present in person at the ICU, unable to fill out questionnaires, refuse to participate, are in an unstable psychological condition, or patients who are treated for less than two days. The sampling of 30 families from a total population of 302 patient families in the ICU was based on the use of purposive sampling techniques, namely deliberate selection of samples in accordance with the inclusion criteria set by the researcher. In the study in the ICU room, the number of families who can be used as respondents depends on the patient's condition, the length of treatment, and the availability of families who are present and willing to be participants. Not all patient families meet the criteria, for example families who do not accompany patients directly, families whose patients are treated for less than two days, or families who experience communication barriers and cannot fill out questionnaires. Therefore, only families that meet the inclusion criteria and can be reached during the study period can be included. In addition, a sample of 30 respondents is still considered adequate for the cross sectional research design, in accordance with the recommendation that a simple correlation can be done with a minimum of 30 respondents. Thus, this number of samples can be considered representative based on the research criteria and allows statistical analysis to be carried out validly without disturbing the ethics and sensitive conditions of the ICU patient's family.

The independent variable in this study was nurses' caring behavior, while the dependent variable was the anxiety level of family members. Data were collected using two standardized instruments. Nurses' caring behavior was measured using a 40-item questionnaire adapted from (Karo, 2023) consisting of four response options (4 = always, 3 = often, 2 = rarely, 1 = never). Scores were categorized as follows: very good (130–160), good (100–129), fair (70–99), and poor (40–69). The Hamilton Anxiety Rating Scale (HARS) was used to assess anxiety levels. The instrument comprises 14 items rated on a five-point scale (0 = no symptoms to 4 = very severe/panic). Anxiety scores were classified into five categories: no anxiety (≤14), mild anxiety (15–20), moderate anxiety (21–27), severe anxiety (28–41), and panic (42–56), following (Umar, 2022).

Instrument validity and reliability were ensured through existing evidence. The caring behavior questionnaire had previously undergone validity testing by (Karo, 2020). The HARS scale was not revalidated for this study, as it had been psychometrically tested in earlier research, demonstrating a Cronbach's alpha coefficient of 0.793 across its 14 items.

Data were analyzed using the Spearman rank correlation test to examine the relationship between nurses' caring behavior and family anxiety levels. The normality test was not performed because the analysis used Spearman Rank which is a non-parametric test and does not require normal data distribution. This research applies ethical principles which include autonomy, beneficence, non-maleficence, and justice. The principle of *autonomy* is carried out by providing a complete explanation to the patient's family about the purpose and procedure of the research and obtaining informed *consent* before filling out the questionnaire. The principle *of beneficence* is applied by ensuring that research provides benefits, namely producing information that can improve the quality of nursing services. The principle *of non-maleficence* is maintained by ensuring that the research process does not pose physical or psychological risks to respondents. The principle of *justice* is applied by providing equal opportunities to all respondents who meet the inclusion criteria without discrimination.(Putri, 2023) This research has also received ethical approval from the Ethics Committee of STIKes Santa Elisabeth Medan. Ethical approval for this study was obtained from the Ethics Committee of Santa Elisabeth College of Health Sciences Medan (Approval No. 094/KEPK-SE/PE-DT/IV/2024).

3. RESULT AND DISCUSSION

Table 1. Demographic Data in the Intensive Care Unit

Characteristics	Frequency	Percentage
Age		
Adult	23	76.7
Young adults	2	6.7
Elderly	5	16.7
Total	**30**	**100.0**
Gender		
Male	12	40
Female	18	60
Total	**30**	**10**
Religion		
Islam	5	16.7
Katolik	10	33.3
Kristen	15	50.0
Total	**30**	**100.0**
Tribes		
Batak Toba	13	43.3

Jawa	4	13.3
Karo	10	33.3
Nias	2	6.7
Simalungun	1	3.3
Total	**30**	**100.0**
Education		
Amd	2	6.7
Bachelor	7	23.3
SMA	19	63.6
SMK	1	3.3
SMP	1	3.3
Total	**30**	**100.0**

Based on Table 1, the majority of respondents were in the adult age group of 23 people (76.7%). In terms of gender, respondents were dominated by women, namely 18 people (60%). Judging from religion, the majority of respondents are Christians as many as 15 people (50%). Meanwhile, from the tribe, most of them came from the Toba Batak tribe as many as 13 people (43.3%). For the education level, the majority of respondents had a high school education as many as 19 people (63.6%). This data shows that most of the patients' families accompanying patients in the ICU are adult women with secondary education and come from the background of the Batak Toba tribe.

Table 2. Distribution *Caring Behavior* of Nurses and Distribution Patient's Family Anxiety

Caring behavior	**Frequency**	**Percentage**
Excellent	21	70.0
Good	8	26.7
Enough	1	3.3
Total	**30**	**100.0**
Anxiety	**(f)**	**(%)**
Heavy	8	26.7
Medium	12	40.0
Low	3	10.0
No anxiety	7	23.3
Total	**30**	**100.0**

Table above shows the results of the frequency distribution of 30 respondents, very good *caring behavior data was* obtained, 21 respondents (70.0%), and only 1 respondent (3.3%). The table above shows the results of the frequency distribution of 30 respondents, with moderate anxiety for 12 respondents (40.0%), and mild anxiety for 3 respondents (10.0%).

Table 3. Results Statistical Test on the Influence *of Caring Behavior* on Anxiety of Patient Families in the Intensive Care Unit

			Categories of anxiety	Category care
Spearmen's rho	Categories of Anxiety	Cirrelation Coefficien	1.000	.127
		Sig. (2-tailed)		.505
		N	30	30
	Category care	Correlation Coefficient	.127	1.000
		Sig. (2-tailed)	.505	-
		N	30	30

Based on Table 3, the statistical analysis yielded a p-value of 0.505 ($p > 0.05$), indicating that nurses' caring behavior was not significantly associated with the anxiety levels of patients' family members in the intensive care unit of Santa Elisabeth Hospital Medan in 2024. The normality test was not performed because the analysis used Spearman Rank which is a non-parametric test and does not require normal data distribution.

4. DISCUSSION

Caring Behavior of Nurses in the Intensive Care Unit

The findings of this study indicate that nurses demonstrated positive caring behaviors, including friendliness, smiling, providing clear information about the patient's condition, showing empathy, and responding promptly to the needs of both patients and their families. Nurses also displayed honesty in addressing questions from family members. However, opportunities remain for improvement, particularly in assessing and acknowledging families' specific abilities or coping resources.

These findings align with (Indriana, 2023), who emphasizes that caring behavior is a fundamental component of nursing practice and is essential for enhancing service quality and supporting families during critical illness. High-quality caring behavior improves the overall experience of care and plays an important role in reducing family distress.

Anxiety Among Family Members of ICU Patients

Family members of ICU patients in this study predominantly experienced moderate anxiety. This anxiety appears to stem from limited understanding of the patient's medical condition, uncertainty about the care provided, and heightened vigilance triggered by routine clinical activities such as nurses entering the patient's room. Families also reported psychological symptoms including restlessness, sleep disturbances, and feelings of isolation.(Putri, 2023)

These findings support (Intani et al., 2023), who notes that the ICU environment characterized by restricted visitation, unfamiliar medical equipment, and limited family involvement often contributes to increased anxiety. When family members are unable to fulfill their caregiving roles or remain close to the patient, they may experience heightened fear and worry. Therefore, providing structured emotional support and sensitive communication is essential in the ICU context.

Effect of Nurses' Caring Behavior on Family Anxiety

The statistical analysis revealed no significant association between nurses' caring behavior and the anxiety levels of family members ($p = 0.505$). Although the correlation coefficient ($r = 0.127$) indicated a weak positive relationship, this finding does not imply a meaningful influence. The positive direction of the correlation suggests that higher caring behavior was observed among families who also exhibited higher anxiety, likely reflecting a compensatory response from nurses rather than a causal relationship(Handayani et al., 2023)

Despite the lack of statistical significance, caring behavior remains clinically important. Nurses' empathy, presence, and effective communication can help families feel supported and understood, contributing to a therapeutic environment that may ease emotional distress. This perspective is reinforced by (Agustin, 2020), who argues that caring is an expression of professional responsibility and sensitivity to the suffering of both patients and their families.

The absence of a significant relationship in this study may be influenced by several factors, including the small sample size, variability in family coping mechanisms, and the complexity of anxiety, which is affected by multiple psychosocial and situational determinants beyond nursing behavior alone. Families may experience persistent anxiety due to critical illness severity, lack of control, or personal psychological history factors not directly modifiable through caring behavior.

5. CONCLUSION AND SUGESSTION

This study shows that nurses in the ICU have implemented caring behaviors very well, especially in terms of communication, empathy, and response to the patient's family needs. Despite this, the patient's family still experiences a lot of anxiety during the treatment process in the ICU. These findings indicate that family anxiety is not only influenced by the caregiver's caring behavior, but also by various other factors such as the patient's condition, ICU environment, limited access to information, and the coping ability of each family. Therefore, emotional mentoring efforts and improved communication still need to be strengthened to help families cope with critical situations during patient care in the ICU.

It is hoped that future researchers can conduct further research on the factors that influence satisfaction as research considerations.

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