Jurnal Keperawatan *Priority*, Vol 8 No.2, Juli 2025
ISSN 2614 - 4719

The Relationship Between Patient Length of Stay and Family Anxiety Levels in the ICU

Dera Ariawan[1], Hadi Abdillah[2], Ernawati Hamidah[3] Hendri Hadiyanto[4]
[1,2,3,4] Universitas Muhammadiyah Sukabumi
Email: deraariawan@ummi.ac.id

ABSTRACT

Anxiety is a common psychological response experienced by family members of patients treated in the Intensive Care Unit (ICU). The longer the duration of patient care, the greater the uncertainty and emotional burden that may be experienced by families. This study aims to determine the relationship between the length of patient hospitalization and the level of family anxiety in the ICU of RSUD Jampang Kulon. The research employed a quantitative correlational design with a cross-sectional approach. Data were collected from family members of patients treated in the ICU through a total sampling technique, with a sample size of 34 respondents. The Hospital Anxiety and Depression Scale (HADS) questionnaire was used to measure anxiety levels, and patient treatment duration was obtained from medical records. The results showed that most respondents experienced moderate to high levels of anxiety, with a tendency for increased anxiety corresponding to longer treatment durations. Statistical analysis using the Spearman Rank test indicated a significant relationship between the length of hospitalization and the level of family anxiety p-value = 0.001 (p-value < 0.05). The findings suggest that prolonged ICU care can elevate anxiety among family members, which may impact their psychological well-being and ability to support the patient. It is concluded that healthcare providers should consider implementing supportive interventions for families, especially when patient care in the ICU is extended, to help manage and reduce anxiety effectively

Keywords: family anxiety, length of stay, critical care, patient care duration

INTRODUCTION

The Intensive Care Unit (ICU) is a specialized hospital unit designed to provide comprehensive and continuous care for critically ill patients. These patients often face life-threatening conditions requiring advanced medical interventions, such as mechanical ventilation, intravenous therapy, and close physiological monitoring. The complex and high-risk nature of ICU care creates a tense and emotionally charged environment, not only for the patients but also for their families (Sarigiannis et al., 2023).

Families of ICU patients frequently experience anxiety, stress, and emotional fatigue due to several factors, including the severity of the patient's illness, unfamiliarity with medical equipment, lack of direct communication with the healthcare team, and uncertainty about the patient's prognosis (Greenberg et al., 2022). The emotional burden intensifies when the patient requires prolonged hospitalization in the ICU. According to Herlina et al. (2020) family

members of critically ill patients often endure psychological distress that may continue even after the patient is discharged or passes away.

Anxiety, in particular, is a common psychological response among family members. It is characterized by excessive worry, fear, and physiological symptoms such as restlessness and insomnia (Greenberg et al., 2022). Long durations of hospitalization can prolong exposure to these stressors, resulting in increased anxiety levels. A study by Pochard et al. (2020) found that nearly one-third of family members of ICU patients exhibited symptoms of anxiety or depression during the patient's stay.

In Indonesia, emotional support for families in the ICU is often limited, as the focus of care tends to remain on the patient (Sarigiannis et al., 2023). However, addressing the emotional needs of families is essential because family members play a vital role in decision-making and in providing ongoing care and support post-discharge. Ignoring these needs can have long-term psychological consequences and may affect the family's ability to engage positively in the patient's care process (Davidson, 2020).

This study aims to explore the relationship between the length of ICU hospitalization and the anxiety levels experienced by family members of patients at RSUD Jampang Kulon. The motivation behind this study stems from the observation that extended hospital stays tend to elevate stress and emotional strain on families, potentially affecting their health and well-being (Davidson et al., 2020). By identifying the correlation between hospitalization duration and family anxiety, healthcare providers may be better equipped to implement early interventions, such as psychological support, counseling, and improved communication strategies (Widiastuti et al., 2023). Ultimately, the findings of this study are expected to contribute to the development of family-centered care models in ICU settings, where both patients and their families are supported holistically. Providing psychological care to families during hospitalization is not only compassionate but also essential to improving overall healthcare outcomes (Suryartha, 2021).

This study explores the relationship between the length of ICU stay and the anxiety levels of patients' families at RSUD Jampang Kulon, a topic that has not been specifically investigated in this setting. It provides new insights by focusing on a regional hospital where communication and access to information may differ significantly from tertiary care centers. The findings aim to fill the gap in local data and support the development of targeted interventions to reduce family anxiety in critical care environments. This study aims to analyze the relationship

between the length of patient care and the level of family anxiety in the ICU of RSUD Jampang Kulon.

METHODS

This study employed a quantitative correlational design with a cross-sectional approach to examine the relationship between the length of patient hospitalization in the Intensive Care Unit (ICU) and the level of anxiety experienced by their family members (Dahlan, 2014). A correlational design was chosen because it enables researchers to assess the degree of association between two or more variables without manipulating them, which is suitable for understanding naturally occurring phenomena in healthcare settings (Sugiyono, 2017).

Participants in this study were family members of patients admitted to the ICU at RSUD Jampang Kulon. RSUD Jampang Kulon was chosen as the research site because it is a regional hospital that serves a large population in the southern area of Sukabumi Regency, where access to advanced healthcare facilities is limited. Preliminary observations at this hospital indicated a high level of anxiety among family members of ICU patients, especially during prolonged hospital stays. Additionally, there has been no previous research conducted at RSUD Jampang Kulon specifically examining the relationship between the length of ICU stay and family anxiety levels, making it a relevant and valuable setting for this study. To be eligible, participants had to be at least 18 years old and serve as the primary caregivers or individuals most frequently accompanying the patient. Individuals were excluded if they had a history of psychiatric illness, were unavailable during the data collection period, or declined to provide informed consent (Widiastuti et al., 2023). A total sampling technique was used, involving all eligible individuals who met the inclusion criteria during the study period (Dahlan, 2014a). The unit of analysis was individual family members, and the study context was a hospital-based ICU environment. A total of 34 respondents were recruited, reflecting a diverse range of demographic characteristics including age, gender, educational level, and relationship to the patient (Sugiyono, 2020).

Data were collected through structured questionnaires. Anxiety levels were assessed using the Hospital Anxiety and Depression Scale (HADS), which is a validated and widely used instrument in hospital settings for identifying anxiety and depression symptoms (Zigmond & Snaith, 2023). The HADS anxiety subscale consists of seven items rated on a four-point Likert scale ranging from 0 to 3, with a total score ranging from 0 to 21. Scores are interpreted as normal (0–7), borderline (8–10), and abnormal (11–21) anxiety levels (Greenberg et al., 2022).

The length of patient hospitalization was measured in days and obtained directly from hospital medical records.

This study received ethical approval from the Health Research Ethics Committee of the Faculty of Health Sciences, Universitas Muhammadiyah Sukabumi, with the approval number 090/KET/KE-FKES/I/2025. Before data collection, all participants were given an explanation of the study's purpose, procedures, potential risks, and their rights as participants. Written informed consent was obtained, and confidentiality was ensured. Participants were also informed of their right to withdraw from the study at any time without any impact on their or the patient's treatment. All ethical procedures followed the guidelines outlined in the Declaration of Helsinki (Kementerian Kesehatan RI, 2021).

RESULTS

The research results can be seen in the table below:

Table 1 Distribution of Respondents' by gender (n=34)

Characteristic	Frequency	%
Gender		
Male	19	55.9
Female	15	44.1
Total	34	100.0

Based on the research findings, the majority of respondents in this study were male, accounting for 19 individuals (55.9%), while female respondents comprised 15 individuals (44.1%). This indicates that most of the patient families experiencing anxiety during ICU care at RSUD Jampang Kulon were represented by male family members.

In addition, the age characteristics of the respondents were described using descriptive statistics, as the data were numerical. The detailed information is presented in Table 2:

Table 2. Descriptive Statistics by age

Characteristic	N	Minimum	Maximum	Mean
Age (years)	34	32	67	49.65

The descriptive analysis shows that the age of respondents ranged from 32 to 67 years, with an average age of 49.65 years. This indicates that the majority of family members experiencing anxiety during ICU care were middle-aged to elderly.

Table 3. Frequency Distribution of Length of Hospitalization (n=34)

Length of Stay	Frequency	%
Short	7	20.6
Moderate	23	67.6
Long	4	11.8
Total	**34**	**100.0**

The results indicate that the majority of patients in the ICU had a moderate length of stay, with 23 individuals (67.6%), while 7 patients (20.6%) had a short stay, and 4 patients (11.8%) had a long stay. This suggests that most families experienced anxiety during moderate-duration ICU care.

Tabel 4. Frequency Distribution of Family Anxiety Levels

Anxiety Level	Frequency	%
Mild	7	20.6
Moderate	21	61.8
Severe	6	17.6
Total	**34**	**100.0**

The findings reveal that the majority of family members of ICU patients experienced moderate anxiety, with 21 respondents (61.8%), while 7 respondents (20.6%) had mild anxiety, and 6 respondents (17.6%) experienced severe anxiety. This indicates that patient hospitalization in the ICU tends to affect the emotional state of family members, with most experiencing moderate anxiety.

Tabel 5. Relationship between Length of Hospitalization and Family Anxiety Levels in ICU at RSUD Jampang Kulon

Length of Stay	Anxiety Level						Total		p-value
	Mild		Moderate		Severe				
	f	%	f	%	f	%	N	%	
Short	7	100	0	0	0	0	7	20.6	**0.001**
Moderate	0	0	21	91.3	2	8.7	23	67.6	
Long	0	0	0	0	4	100	4	17.6	
Total	**7**	**20.6**	**21**	**61.8**	**6**	**17.6**	**34**	**100.0**	

The Chi-Square test analysis showed a significant relationship between the length of hospitalization and the anxiety levels of family members (p = 0.001). All respondents whose family members had short stays experienced mild anxiety (20.6%). Among those with moderate stays (67.6%), 91.3% experienced moderate anxiety, and 8.7% experienced severe anxiety. Meanwhile, all respondents whose family members had long ICU stays (17.6%) experienced severe anxiety. These findings suggest that the longer the duration of hospitalization, the higher the level of anxiety among family members.

DISCUSSION

Respondent Characteristics

This study aims to analyze the relationship between the length of patient care and the level of family anxiety in the ICU of RSUD Jampang Kulon. The study results show that the majority of patient families experiencing anxiety during ICU care at RSUD Jampang Kulon were represented by male family members. This may be related to the role of men in the family as the primary decision-makers, especially in emergency situations such as ICU treatment. In addition, men are often more involved in administrative and financial aspects of patient care, which can increase their psychological burden during the treatment period. These findings are consistent with previous research, which stated that in many cultures, men bear the main responsibility for supporting sick family members, both emotionally and financially (Yusuf et al., 2015).

Besides gender, the age of the patient's family members also contributes to the level of anxiety they experience. Most respondents in this study were in the middle-aged to elderly group, a demographic that generally holds significant responsibility for the family and may also face limitations in coping with stress due to a family member's critical health condition. Older age is often associated with higher anxiety levels due to concerns about the patient's condition, physical limitations in accompanying the patient, and previous experiences with similar situations (Putri et al., 2022). This condition indicates the need for greater psychosocial support for families of ICU patients, especially those within age groups that are vulnerable to stress and anxiety.

Description of Length of Hospitalization

The length of a patient's stay in the ICU is an important factor that can influence the psychological condition of the patient's family. Patients with longer hospitalization periods often experience more complex medical conditions, which may increase family anxiety due to uncertainty regarding the prognosis and recovery process (Rahayu et al., 2021). On the other hand, patients with shorter ICU stays tend to have more stable conditions or respond more quickly to treatment, resulting in lower anxiety levels among their families (Vincent et al., 2020). Previous studies have shown that longer ICU stays are often associated with increased emotional stress for families, especially when the patient's condition does not show significant improvement within a certain period (Vincent et al., 2020).

Furthermore, families of patients with a moderate length of ICU stay also experienced a relatively high level of anxiety, as this period is often a critical phase for monitoring the patient's condition. Uncertainty regarding the patient's health progress and unexpected changes can trigger emotional stress for accompanying family members. The length of ICU stay is generally categorized into short (≤3 days), moderate (4–7 days), and long (>7 days), based on patterns commonly found in critical care research. While hospitals, including RSUD Jampang Kulon, may not have fixed formal standards for these categories, such classifications are widely used in studies to evaluate clinical outcomes and psychosocial impacts on families. This categorization follows previous research such as that by Chien, (2020) which associates prolonged ICU stays with increased family anxiety and psychological distress. Psychosocial support from healthcare professionals is crucial to help families manage anxiety during the treatment period. Several studies emphasize that good communication between medical staff and patient families, along with clear information about the patient's condition, can help reduce anxiety and improve their understanding of the ICU treatment process (Rahayu et al., 2021).

Description of Family Anxiety Levels

The anxiety experienced by patients' families during ICU treatment is a natural response to the critical situation faced by their loved ones. The ICU environment, filled with advanced medical equipment and strict regulations, can induce discomfort and heighten family anxiety. Factors such as lack of information about the patient's condition, shifts in family roles, and uncertainty about the treatment outcome contribute to the level of anxiety experienced by the patient's family (Herlina et al., 2020).

In addition, the emotional burden felt by families may be influenced by various factors, including age, gender, education level, and previous experience dealing with similar situations. Studies have shown that younger families, females, and those with lower education levels tend to experience higher levels of anxiety during ICU treatment of a family member (Suryartha, 2021). Therefore, it is essential for healthcare professionals to provide emotional support and clear information to the patient's family to help them manage their anxiety more effectively.

Relationship Between Length of Hospitalization and Family Anxiety in the ICU of RSUD Jampang Kulon

The findings of this study indicate a significant relationship between the length of ICU hospitalization and the level of anxiety experienced by the patient's family. Longer hospitalization tends to be associated with increased anxiety levels, primarily due to uncertainty

about the patient's condition, prolonged emotional burden, and psychological stress caused by continuously changing circumstances. This is consistent with previous research stating that the longer a patient stays in the ICU, the higher the level of anxiety experienced by their family members due to increased worry over the treatment outcomes (Hidayati et al., 2021).

Families of patients with shorter ICU stays tend to experience mild anxiety, possibly due to the hope that the patient will recover soon and be discharged from the ICU. In contrast, families of patients with a moderate length of stay mostly showed moderate levels of anxiety, which could be caused by the uncertainty regarding the patient's condition and the ongoing treatment process (Chien & Chiu, 2020). Meanwhile, families of patients with long ICU stays generally experienced severe anxiety. This condition may be influenced by emotional fatigue, financial stress, and uncertainty regarding the patient's prognosis, all of which contribute to increased psychological stress on the family (Rahmawati & Sari, 2020).

These findings emphasize the importance of providing psychosocial support to families experiencing anxiety during ICU treatment (Greenstein et al., 2024). Healthcare providers need to offer clear and transparent information about the patient's condition and treatment progress to help reduce family anxiety. Additionally, interventions such as counseling or family support programs can assist them in managing anxiety more effectively. By understanding the factors influencing family anxiety, care provided should not only focus on the patient but also address the emotional well-being of the family (Putri et al., 2022).

CONCLUSION

This study indicates a significant relationship between the length of ICU hospitalization and the level of anxiety experienced by patients' families at RSUD Jampang Kulon. The longer the duration of the patient's hospitalization, the higher the level of anxiety experienced by the family, particularly in cases of long-term care. Families of patients undergoing short-term treatment tend to experience mild anxiety, while those with a moderate duration of care generally report moderate levels of anxiety. Meanwhile, families of patients receiving long-term treatment experience more severe anxiety, which may be caused by uncertainty regarding the patient's condition and prolonged psychological pressure. ICU nurses at RSUD Jampang Kulon are encouraged to be more proactive in providing education and psychological support to patients' families, especially those facing long-term care, through clear communication about the patient's condition, medical procedures, and prognosis. The hospital is advised to offer psychosocial support services such as counseling and regular educational sessions to help

families better understand the treatment process and reduce anxiety. Future researchers are recommended to include larger sample sizes across multiple hospitals and explore additional factors such as education level, socioeconomic status, and social support to gain a more comprehensive understanding of family anxiety in the ICU setting.

LIMITATION

The limitations of this study include a relatively small sample size, which may not fully represent the broader population. Additionally, the research was conducted at only one hospital, namely RSUD Jampang Kulon, which limits the generalizability of the findings to a larger population. The subjectivity of respondents in expressing their level of anxiety is also a limitation, as anxiety is a psychological condition that can be influenced by various individual factors that may not be fully measurable in this study.

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