



HOSPITAL LENGTH OF STAY AND FAMILY NEEDS OF CRITICALLY ILL PATIENTS

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ABSTRACT

The needs of families of patients treated in intensive care units with unstable conditions and uncertain lengths of stay often cause anxiety and increase the need for proximity, service assurance, support, information, dan comfort. The purpose of this study was to determine the relationship between hospital length of stay and family needs during intensive care. The method used was quantitative with a cross-sectional approach and purposive sampling technique. The study population consisted of family members of critically ill patients at Dr. Moewardi General Hospital in Surakarta, with 100 participants. The tool used was the Indonesian version of the Critical Care Family Needs Inventory (CCFNI) questionnaire with a Cronbach's alpha score of 0.97. Data analysis was performed using Spearman's rank correlation test to examine the relationship between hospital length of stay and family needs. The results showed a significant relationship between hospital length of stay and family needs in the dimensions of proximity ($p = 0.003$), service assurance ($p = 0.029$), and total family needs score ($p = 0.035$). No significant relationship was found between hospital length of stay and family needs in the dimensions of family support ($p = 0.171$), information ($p = 0.131$), and comfort ($p = 0.401$).

Keywords: critical care unit; family support; length of stay

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INTRODUCTION

Healthcare facilities are an important contributor to the success of healthcare delivery, one of which is hospitals. Healthcare providers in hospitals are characterized by their professionalism, technology, and the relationship between patients and healthcare services in healthcare delivery. The services provided by hospitals are care-oriented and aimed at patients, individuals, and families (Tarigan & Ginting, 2019). One of the various care services provided by hospitals in delivering primary care is the intensive care unit, which is a ward for patients whose health condition is life-threatening (Imamah et al., 2023).

The prevalence of critical patients receiving ICU care in 2019 worldwide, based on World Health Organization (WHO) was 1.1–7.4 million, and each year the number of critically ill patients treated in ICUs increased by 9.8–24.6% per 100,000 people worldwide suffering from critical illnesses requiring critical care, with an estimated 1.1–7.4 million more people dying from critical illnesses worldwide. The prevalence of critical patients in Indonesia in 2019 was recorded at 33,148 patients with a patient mortality rate in the ICU reaching 36.5% (Ministry of Health, 2018). In 2020, the Bed Occupancy Rate (BOR) jumped to 80%. The 2021 BOR data in ICU rooms in Indonesia reached 81,032 beds from 2,979 hospitals with an average ICU occupancy rate of 64.83% (Indonesian Ministry of Health 2022, 2023).

The unstable condition of patients during treatment in critical care often means that families waiting for these patients face uncertainty (Mariati et al., 2022). The presence of family members as caregivers is essential for patients who require regular care (Rahayu S et al., 2019). Family support is a form of interaction and relationship between family members. The support of family members

plays a role in various aspects of understanding that can improve patient recovery (Hardiyana et al., 2023). In addition, patients also need support from their families because they are prone to anxiety due to the new environment (Zahra et al., 2023).

One of the most important aspects of hospital management is patient and family satisfaction, which means that the facilities provided by the hospital are in line with the needs of patients and families. This can also have a positive impact on health workers and hospitals (Faozi et al., 2024). Providing services based on predetermined service quality standards to optimally meet the needs of patients and families (Rahmiati et al., 2020).

This shows that in the intensive care process, family support services are also needed because the length of treatment means that families waiting for patients cannot stay around the patients all the time and there is a lack of information provided by health workers, so family support services are also very important (Anggriani et al., 2020). The needs of families waiting for uncertain health developments of patients in critical care rooms range from the need for proximity to the patient, service guarantees, family support, information, and a comfortable waiting area. The Family Needs Inventory (CCFNI) is used to identify the needs of patients' families so that health services are also important in studying the needs of families while waiting for patients in the ICU (Hafifah et al., 2021).

In a previous study conducted by (Öztaş et al., 2025), the results showed that only some respondents received information about intensive care after a few days, while in a study conducted by (Zahara Farhan et al., 2023), the results showed that only some respondents received information about the duration of care and treatment provided. A study conducted by (Scheer et al., 2025) found that family support in the form of emotional and psychological needs, clear communication, and empathy needs to be improved. However, none of the previous studies have shown whether family needs are related to the length of patient stay in the critical care unit.

Therefore, this study aims to analyze and identify the relationship between hospital length of stay and family needs in the critical care unit, which consist of the need for proximity, service assurance, family support, the need for information, and the need for a comfortable environment. The findings of this study are expected to form the basis for a family-centered care approach without neglecting the length of care required by patients, as well as for optimizing and improving services in intensive care units.

METHOD

This study used a quantitative descriptive design and cross-sectional approach to determine the relationship between hospital length of stay and family needs, using purposive sampling, which is the selection of samples based on specific criteria that are in line with representing the research population. The research population consisted of 100 families of patients waiting for patients in the critical care unit of Dr. Moewardi Surakarta Regional General Hospital. Sampling was conducted using total sampling, with all participants included in the sample based on the inclusion criteria of being at least 18 years old and waiting for more than 24 hours, and the exclusion criteria of families with mental and hearing disorders or those who were unwilling to fill out the questionnaire.

This study has an independent variable, namely length of stay, and a dependent variable, namely family needs, with 5 dimensions of family needs, namely the dimensions of proximity, service assurance, family support, information, and comfort. Data were obtained from primary data by distributing questionnaires to participants from August to November 2025. The instruments used were a grouping of waiting times and the Critical Care Family Needs Inventory (CCFNI) questionnaire developed by (Leske, 1991), consisting of 36 questions with dimensions of proximity

(4 questions), assurance (9 questions), support (9 questions), information (10 questions), and comfort (4 questions) using a Likert scale. The Critical Care Family Needs Inventory (CCFNI) instrument in Indonesian has undergone validity and reliability testing with a Content Validity Index (CVI) score of 0.90 and a Cronbach's alpha score of 0.97, indicating that it is valid and reliable (Wantiyah et al., 2018). Data analysis in this study consisted of univariate analysis used to describe participant characteristics such as age, gender, education, occupation, length of stay patients, and family needs. In this study, bivariate analysis aimed to analyze the relationship between hospital length of stay and family needs of critical patients.

The Kolmogorov-Smirnov test is used to assess whether data is normally distributed or not. and the results show that the sample $n=100$ with a mean of 121.17 and a standard deviation of 9.696, the KS value is 0.147 with an asymptotic significance (2-tailed) of 0.000 ($P < 0.05$), indicating that the total overall score of the needs of critical patients' families is not normally distributed. Therefore, this study used Spearman's Rank Correlation test to determine the relationship between hospital length of stay and family needs. Spearman's correlation was used on an ordinal scale. A relationship is said to be significant if the calculated Sig. (2-tailed) value is < 0.05 . Meanwhile, if the Sig. (2-tailed) value is > 0.05 , the relationship between hospital length of stay and family needs is considered insignificant (validity). This study has undergone an ethical feasibility test and has been declared to have passed the ethical test by the Dr. Moewardi Hospital Health Research Ethics Committee with number 1.803/VIII/HREC/2025.

RESULT

Table 1

Characteristics of Respondents based on Age, Length of Stay, Gender, Education, and Occupation

Characteristics	f (%)	<i>M±SD</i>
Age	100	40,93±12,708
20 – 35 Years	36(36%)	
36 – 54 Years	46(46%)	
55 – 65 Years	16(16%)	
> 65 Years	2(2%)	
length of stay patients	100	5,70 ± 4,169
Gender (n/%)		
Men	50(50%)	
Women	50(50%)	
Education (n/%)		
Elementary School	15(15%)	
Junior High School	16(16%)	
High Schoo	52(52%)	
University	27(27%)	
Employment		
Not Working	9(9%)	
Civil Servants/Military/Police	13(13%)	
Entrepreneur	26(26%)	
Laborer/Farmer	31(31%)	
Student	13(13%)	
Other	8(8%)	

Table 1 shows that the families of critically ill patients were aged between 18 and 68 years, with a mean of 40.93 and a standard deviation of 12.708. Fifty participants (50.0%) were male and 50 participants (50.0%) were female. The educational background of 52 participants was high school (52.0%). The most common occupation of participants was laborer/farmer, with 31 participants (31.0%), followed by entrepreneur, with 26 participants (26.0%).

Table 2
Critical patient family needs based on the Critical Care Family Needs Inventory (CCFNI)

Family Needs	M±SD	Rangking
Dimension of proximity		
Obtaining additional visiting time under certain conditions	3,18±0,657	27
Permission to visit patients in intensive care rooms with a family member	3,16±0,707	30
The opportunity to visit patients without any time restrictions	2,97±0,717	33
The freedom to visit patients as often as possible	2,87±0,774	36
Dimension of assurance		
Receive assurance that patients are being treated well	3,76±0,429	1
Have hope for the patient's recovery	3,73±0,446	2
Know the purpose of the patient's treatment and care procedures	3,56±0,499	8
Be able to discuss the patient's referral plan	3,53±0,521	10
Getting appropriate visiting hours	3,45±0,520	14
Being able to discuss with the doctor every day	3,44±0,499	16
Being able to discuss the patient's condition with healthcare professionals	3,44±0,499	17
Getting assurance from healthcare professionals that everything will go smoothly when leaving the hospital temporarily	3,43±0,537	18
Having healthcare professionals available to contact when there are no family members at the hospital	3,36±0,503	24
Dimension of support		
Feeling that hospital staff are attentive to patients	3,44±0,519	15
Feeling accepted by hospital staff	3,40±0,521	21
Receiving support from family members	3,37±0,562	22
Having family or relatives who care about one's health	3,30±0,503	25
Having family who can help with financial problems	3,19±0,563	26
Having family with whom they can share stories about the problems they are experiencing	3,18±0,575	28
Being able to discuss spiritual needs with religious leaders	3,08±0,598	31
Being provided with religious leaders to accompany them	3,04±0,585	32
Discussing the problems they are facing with other people	2,91±0,668	35
Dimension of information		
Knowing the patient's actual condition	3,64±0,482	4
The hospital contacts the family if there is a change in the patient's condition	3,60±0,492	5
Understanding how the patient's treatment process works	3,59±0,494	6
Getting information about the patient's condition every day	3,59±0,514	7
Knowing in detail the actions taken by health workers towards the patient	3,52±0,541	11
Getting an explanation of the situation/conditions in the intensive care unit before entering the critical room for the first time	3,50±0,503	12
Receiving explanations about information that is not yet understood	3,45±0,626	13
Healthcare personnel provide information about the possibility of the patient's death	3,40±0,707	19
Knowing which hospital staff are responsible for caring for the patient	3,04±0,585	20
Knowing which hospital staff can provide information	3,37±0,485	23
Dimension of comfort		
There is a waiting room located near the intensive care unit.	3,70±0,503	3
Bathroom facilities are available near the waiting room.	3,55±0,557	9
You can express all your feelings	3,18±0,500	29
It is okay to cry	2,92±0,668	34
Total Skor CCFNI	3,36±0,269	

Table 2 above shows that the most important family need is to obtain assurance that patients are well cared for, which is in the assurance dimension with a mean of 3.76 and a standard deviation of 0.429. The least important family need is having the freedom to visit patients as often as possible, which falls under the proximity dimension with a mean of 2.87 and a standard deviation of 0.774.

Table 3
Relationship between hospital Length of stay and Family Needs

Dimension of Family Needs	M±SD	Correlation r	P-value
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Proximity	3,04±0,506	0,299	0,003
Assurance	3,52±0,264	0,218	0,029
Support	3,21±0,333	0,138	0,171
Information	3,50±0,293	0,152	0,131
Comfort	3,33±0,360	0,085	0,401
Total Skor CCFNI	3,36±0,269	0,211	0,035

Table 3 above shows that the length of stay with family needs in the Spearman rank correlation results obtained that there is a significant relationship between hospital length of stay and family need with the dimension of proximity $r = 0.299$; $p = 0.003$ ($p < 0.05$) and dimension assurance obtained a correlation of $r = 0.218$; $p = 0.029$ ($p < 0.05$). In the total CCFNI score, there is also a relationship between hospital length of stay and the total family needs score $r = 0.211$; $p = 0.035$ ($p < 0.05$).

DISCUSSION

Based on research data, it was found that the length of stay for critical patients was mostly above 5 days with a mean of 5.70. This was due to complications from their initial illness, which required prolonged stabilization with a treatment period of more than 5 days. The emergence of cross-complications during the treatment period originating from healthcare personnel or medical devices attached to patients requires additional treatment time due to a slower recovery process and age factors. According to research by (Venkatesh et al. 2025), data shows that patients who are treated in the ICU for more than 7 days with more severe conditions can increase the mortality rate in hospitals by 1022 (7.7%) and 3557 (26.8%) have a risk of death.

Based on the research, it was found that the most important family need was in the dimension of service assurance, with a mean of 3.76 and a standard deviation of 0.429. The second most important family need is in the service assurance dimension, with the expectation of patient recovery, with a mean of 3.37 and a standard deviation of 0.446. The least important family need is in the proximity dimension, with the freedom to visit patients as often as possible, with a mean of 2.87 and a standard deviation of 0.774.

The most important need of critical patients' families is in the aspect of service assurance, with the highest score in obtaining assurance that patients are well cared for, indicating that critical patients' families hope that their families receive good care, thus indicating that critical patients' families hope that their families receive good care while in the intensive care unit. In a study conducted by (Almagharbeh, 2019), data was obtained that the most important family needs were related to the service assurance dimension, with 4 out of 10 questions on the service assurance dimension.

Based on the results of the Rank Correlation test on the proximity dimension, it shows that the length of stay is related to the family's needs in terms of proximity because $p < 0.05$ in the bivariate analysis obtained a result of $p = 0.003$, which means that the family's needs in terms of proximity are family needs that are influenced by the length of the patient's stay because the presence of family near the patient provides a sense of calm and confidence. Proximity becomes more meaningful when caregivers collaborate with families in caring for patients and reducing family anxiety (Kristiano et al., 2022). Research conducted by (Hafifah et al., 2021) also found that family needs in the dimension of proximity showed that most families considered it important to be close to patients regularly, accompany patients, and provide direct support to patients. Therefore, it can be said that the family's needs in terms of proximity are related to the length of the patient's stay in the critical care unit because the family believes that being close to the patient can help stabilize the patient's condition while in the critical care unit.

In the Rank Correlation test data on the assurance dimension, the results show that length of stay is related to family needs in the assurance dimension because $p < 0.05$ in the bivariate analysis a result

of $p = 0.029$, which means that family needs in the assurance dimension are influenced by the length of stay of patients in the critical care unit. In a study conducted by (Lukmanulhakim & Winda 2022), it was found that family needs in the assurance dimension were needs that had been met according to 25 families (62.5%) of the 40 respondents. A study conducted by (Jafarpoor et al., 2023.) found that basic family needs in terms of assurance are needs that must be met by health workers while serving patients in the critical care unit because satisfaction with assurance will increase public satisfaction with intensive care unit services. The needs of critical patients' families for service guarantees for their families while undergoing treatment in the critical care unit can increase the families' trust in the hospital's services.

Based on the Rank Correlation test on the total score, a relationship was found between hospital length of stay of 100 participants with $p < 0.05$, and in the bivariate analysis, the result was 0.035. Overall, the fulfillment of patients' family needs was influenced by the length of stay of patients in the critical care unit. Based on research conducted by (Imamah et al., 2023), the results showed that nurse motivation (53.3%) and fulfillment of family needs were also in the good category (50%) with a p value < 0.000 . Research conducted by (Asadi & Salmani, 2024) found that interaction with the healthcare team and the fulfillment of their needs significantly influenced feelings of hope and trust regarding the patient's condition while in the intensive care unit. Therefore, meeting family needs is important regardless of the length of the patient's stay in the critical care unit. It is hoped that all healthcare workers serving patients will implement steps and plans that involve the family in providing the necessary support.

This study differs from previous studies that sought to determine whether there is a relationship between hospital length of stay and family needs in critical care and the needs of families of critical patients based on the five dimensions categorized by (Leske, 1991) consisting of proximity, service assurance, family support, information, and comfort. In addition, this study also contributes to improving support for families without neglecting health services for critical patients.

CONCLUSION

The conclusion that can be drawn from this study is that the most important family needs are in the dimension of assurance¹, there is a significant relationship patienten hospital length of stay and the dimensions of proximity and dimensions of assurance, and therefore fulfillment of these two dimensions can be improved without compromising the length of patient stay in the critical care unit.

REFERENCES

- Almagharbeh, W. T. (2019). Family Needs of Critically Ill Patients in Central Jordan: A Family Perspective. *American Journal of Biomedical Science & Research*, 1(5), 217–221. <https://doi.org/10.34297/ajbsr.2019.01.000546>
- Anggriani, U.T., Rahma, L.D (2020). Dukungan Keluarga Dalam Pemenuhan Kebutuhan Spiritual Pasien Di Ruang ICU RSUD dr. M. Yunus Bengkulu. *Jurnal Vokasi Keperawatan (JKV)*, 2 (2), 162 - 169. <https://doi.org/10.33369/jvk.v2i2.10695>
- Asadi, N., & Salmani, F. (2024). The experiences of the families of patients admitted to the intensive care unit. *BMC Nursing*, 23(1), 1–9. <https://doi.org/10.1186/s12912-024-02103-8>
- Fitria, D. I., szi, A., & Dolifah, D. (2024). Hubungan Pengetahuan Kode Etik Keperawatan dengan Perilaku Non-Maleficence Perawat di Ruang Rawat Inap. *Jurnal Keperawatan Florence Nightingale*, 7(1), 216–222. <https://doi.org/10.52774/jkfn.v7i1.174>
- Hafifah, I., Hakim, L., Suratmi, D., & Aiska, M. (2021). Kebutuhan Keluarga Dari Pasien Kritis Yang Dirawat Di Unit Perawatan Intensif RSUD Ulin Banjarmasin. *Dinamika Kesehatan: Jurnal Kebidanan Dan Keperawatan*, 12(1), 293–305. <http://ojs.dinamikakesehatan.unism.ac.id/>

- Hardiyana, M. T., Kristinawati, B., (2023). Gambaran Peran Keluarga Dalam Perawatan Pasien Gagal Jantung: Perspektif Pasien. *Informasi Kesehatan : Jurnal Penelitian* , 15 (1). <https://orcid.org/0000-0002-8283-8346>
- Imamah, I., Husain, F., & Mustika, Y. (2023). Peran Perawat Dengan Pemenuhan Kebutuhan Keluarga Pasien Kritis Di ICU. *Profesi (Profesional Islam): Media Publikasi Penelitian*, 21(1), 33–37. <https://doi.org/10.26576/profesi.v21i1.200>
- Jafarpoor, H., Manoochchhri, H., & Vasli, P. (2023). Needs of Family Members of Intensive Care Patients. *Critical Care Nursing Quarterly*, 46(2), 176-184. <https://doi.org/10.1097/CNQ.0000000000000450>
- Kemendes RI 2022. (2023). Profil Kesehatan Indo-nesia. In [Pusdatin.Kemendes.Go.Id](https://www.kemkes.go.id/downloads/resources/download/pusdatin/profil-kesehatan-indonesia/Profil-Kesehatan-2021.pdf). <https://www.kemkes.go.id/downloads/resources/download/pusdatin/profil-kesehatan-indonesia/Profil-Kesehatan-2021.pdf>
- Kristiano, Y. E., Kosasih, C. E., & Nuraeni, A. (2022). Intervensi Untuk Menurunkan Kecemasan Keluarga Yang Mendampingi Pasien Kritis Di Intensive Care Unit : Literature Review. *Citra Delima Scientific Journal of Citra Internasional Institute*, 6(1), 40–53. <https://doi.org/10.33862/citradelima.v6i1.279>
- Leske, J. S. (1991). Internal psychometric properties of the Critical Care Family Needs Inventory. *Heart & Lung: The Journal of Critical Care*, 20(3), 236–244. <http://www.ncbi.nlm.nih.gov/pubmed/2032860>
- Lukmanulhakim, & Winda, F. (2022). Pemenuhan Kebutuhan Keluarga Pasien Kritis Di Ruang Intensive Care Unit (ICU) RSUD DR . Dradjat Prawiranegara. *Ilmu Keperawatan Dan Kebidanan*, 9(1), 104–110.
- Mariati, M., Hindriyastuti, S., & Winarsih, B. D. (2022). Gambaran Tingkat Kecemasan Keluarga Pasien Yang Di Rawat Di Icu Rumah Sakit Mardi Rahayu Kudus. *The Shine Cahaya Dunia S-1 Keperawatan*, 7(01), 11-22. <https://doi.org/10.35720/tscs1kep.v7i01.326>
- Öztaş, İ., Yava, A., Koyuncu, A., & Kaptanoğlu, S. (2025). Identification of needs of family members of surgical intensive care unit patients: a cross-sectional study. *The European Research Journal*, 11(1), 57–67. <https://doi.org/10.18621/eurj.1478912>
- Rahayu S, R. T. (2019). Karakteristik dan Kesiediaan Caregivers Keluargadari Pasien dengan Penyakit Kronis tentang Pembentukan Support Group. *Jurnal Ilmiah Keperawatan Altruistik*. vol 2, hal 1–11.
- Rahmiati, N. A. T. (2020). Hubungan Dimensi Kualitas Pelayanan dengan minat kunjungan ulang pasien di instalasi rawat jalan RSU Kan Tangerang tahun 2019. *Jurnal Kesehatan*, 13(1), 52–59.
- Sania Qonita, A., Faozi, E., (2024). Hubungan Response Time Perawat Dengan Kepuasan Keluarga Pasien Di Ruang Igd Rsd Ir. Soekarno Sukoharjo. *Jurnal Kesehatan Tambusai*, 5(4), hal 11227-11237
- Scheer, A., Denhof, M., Kaltwasser, A., Kortgen, M., Mason, S., Pelz, S., & Nydahl, P. (2025). Certification of a Family-Friendly Intensive Care Unit—Families Are Always Welcome! *Nursing in Critical Care*, 30(4). <https://doi.org/10.1111/nicc.70074>
- Tarigan, H., & Ginting, M. (2019). Pengaruh Komunikasi Terapeutik Petugas Kesehatan Terhadap Kepuasan Pasien Rawat Inap di Rumah Sakit Umum Herna Medan. *Jurnal Ilmiah Kohesi*, 3(2), 58–67.
- Venkatesh, K., Schlub, T. E., Barreto, S. G., Andersen, C. R., Davenport, M. P., Delaney, A., Kaambwa, B., Bihari, S., Pilcher, D., & Sasson, S. C. (2025). A prediction model for ‘ICU mortality or prolonged ICU stay’ in critically unwell patients with acute pancreatitis: insights from a 2003–2020 cohort analysis using the ANZICS-CORE database. *Critical Care*, 29(1). <https://doi.org/10.1186/s13054-025-05590-6>
- Wantiyah, W., A’la, M. Z., Setioputro, B., & Siswoyo, S. (2018). Validity and Reliability of Critical Care Family Needs Inventory (CCFNI) in Indonesian Version. *NurseLine Journal*, 3(2), 115. <https://doi.org/10.19184/nlj.v3i2.9127>

- Zahara Farhan, Sulastini, Devi Ratnasari, & Ary Aprian. (2023). Fulfilment of Information Needs on Families in Intensive Care Unit. *Jurnal Multidisiplin Madani*, 3(5), 930–935. <https://doi.org/10.55927/mudima.v3i5.3194>
- Zahra, R. C., Dewi, E., & Marumpy, N. (2023). Reduce Anxiety and Maintain Vital Signs of ICU Patients. *Jurnal Berita Ilmu Keperawatan*, 16(2), 320–328.