GLOBAL TEN PUBLIC HEALTH AND NURSING JOURNAL
Volume 3, No. 4, 2025, December, Page 1-6
ISSN: 2579-7913
DOI: 10.36568/gtphnj.v3i4.245

RESEARCH

The Application of Information on the Fulfillment of Patients' Families' Basic Needs in the Intensive Care Unit (ICU) Waiting Room on Service Satisfaction

Rizka Ramadhani, Moch. Bahrudin, Dwi Adji Norontoko, Sri Utami.

Nursing Department, Polytechnic of the Ministry of Health Surabaya, Indonesia
Corresponding author: Rizka Ramadhanu (e-mail: rizkarmdhnii11@gmail.com)

ABSTRACT

Families of ICU patients typically go through anxiety and unpredictability due to the patient's critical condition, which generates basic needs such as information, support, proximity, comfort, and assurance. When these needs are not optimally met, family satisfaction with hospital services may decrease. Structured information delivery is expected to help families better understand the situation and increase their satisfaction. This study aimed to analyze differences in service satisfaction scores before and after the provision of information related to fulfilling the basic needs of patients' families. The study utilized a pre-experimental pretest-posttest design with a single group, including 30 family members of ICU patients selected through purposive sampling. The independent variable involved application of information on fulfilling families' basic needs, and service satisfaction as the dependent variable. Data were obtained through an adapted service satisfaction questionnaire based on the five SERVQUAL dimensions, with analysis performed using the Wilcoxon Signed Rank Test at a significance level of $\alpha = 0.05$. Result showed higher satisfaction scores after the intervention, with a mean improvement of 2.17 points and a 13-point increase in the minimum score. The Wilcoxon test yielded $p = 0.001$, showing a significant variation in satisfaction scores between the pre- and post-information phases. In conclusion, structured information delivery is an effective strategy to enhance family satisfaction during the ICU waiting period, as clearer information helps families feel calmer, understand the patient's condition, and develop a more positive perception of hospital services. These findings support the integration of structured information provision within family-centered nursing care, and hospitals are encouraged to implement routine information delivery, develop educational media, and strengthen communication to maintain family satisfaction.

Keywords: Basic Needs, Service Satisfaction, ICU Patient Families, Service Quality Dimensions

INTRODUCTION

The Intensive Care Unit (ICU) provides specialized care for critically ill patients at high risk of life-threatening conditions but still have the potential for recovery through intensive therapy, advanced technology, and continuous invasive or non-invasive monitoring [1]. Although ICU services are primarily patient-centered, the psychological consequences of critical illness are also deeply felt by family members outside the ICU. Concerns about the patient's condition and prognosis commonly evoke anxiety, stress, uncertainty, and fear among family members. In this situation, families require fulfillment of basic needs, including clear information, assurance, comfort, emotional support, and opportunities to remain close to the patient.

In practice, nurses often provide explanations to family members; however, the information delivered is frequently limited and does not comprehensively address all aspects of family basic needs. Inadequate communication, restricted access to information, and an unsupportive ICU waiting room environment may worsen family psychological distress and reduce satisfaction with hospital [2]. This issue is increasingly important in Indonesia, where ICU utilization continues to rise. National data reported an average ICU bed occupancy rate of 64.83%, reflecting the high demand for critical care services and prolonged treatment duration for critically ill patients [3].

At RSUD Ibnu Sina Gresik, ICU service utilization remains relatively high, with patients

typically requiring extended lengths of stay. Although the hospital's overall service satisfaction index is categorized as good, satisfaction specific to ICU services is lower than the hospital average, indicating unmet expectations among patients' families. Previous studies have highlighted the importance of fulfilling family basic needs as a determinant of satisfaction with nursing care. Family involvement and attention to family needs contribute significantly to improved satisfaction with ICU nursing services [4].

Despite these findings, studies examining structured information delivery as an educational intervention for ICU families remain limited, particularly in public hospitals. Considering the role of nurses as educators, communicators, and advocates, structured information provision may serve as an effective strategy to improve family satisfaction. Therefore, this study aims to analyze differences in service satisfaction scores before and after the application of structured information regarding the fulfillment of patients' families' basic needs in the ICU waiting room at RSUD Ibnu Sina Gresik.

METHOD

This study employed a quantitative pre-experimental approach using a one-group pretest–posttest design was applied to evaluate differences in family service satisfaction before and after structured information delivery. Data collection was performed in the Intensive Care Unit (ICU) of RSUD Ibnu Sina Gresik, Indonesia, between September and October 2025. Participants were family members of ICU patients who were present during the data collection period. A total of 30 respondents were recruited using purposive sampling. Inclusion criteria were willingness to participate with written informed consent, presence in the ICU waiting room during data collection, and the ability to communicate effectively and complete the questionnaires. Family members who did not complete either the pretest or posttest or experienced communication barriers were excluded. The Slovin formula was applied to determine the sample size at a 95% confidence level and a 5% margin of error.

Service satisfaction was measured using a structured questionnaire adapted from Choironi (2020), consisting of 25 items based on the SERVQUAL dimensions: responsiveness, reliability, empathy, assurance, and tangibles. Responses were measured using a four-point Likert scale from 1 (strongly disagree) to 4 (strongly agree), producing total scores between 25 and 100. The instrument demonstrated good validity (all item correlations $r > 0.361$) and excellent reliability (Cronbach's alpha = 0.953). The intervention consisted of structured information delivery on fulfilling the basic needs of ICU patient families, including information, support, proximity, comfort, and assurance needs. The information was provided through a brief educational session lasting approximately 10–15 minutes, supported by a leaflet.

Participants completed a pretest questionnaire prior to the intervention and a posttest questionnaire immediately afterward. Data were analyzed using descriptive statistics to summarize respondent characteristics and satisfaction scores. The Shapiro–Wilk test was applied to assess normality. Given that the data did not follow a normal distribution, the Wilcoxon Signed Rank Test was used to examine differences between pretest and posttest satisfaction scores ($\alpha = 0.05$).

RESULTS

A. GENERAL DATA

Characteristic	Category	Frequency	%
Age (years)	a. 18 - 25	5	16.7
	b. 26 - 35	9	30.0
	c. 36 - 45	12	40.0
	d. 46 - 55	4	13.3
	Total	30	100
Gender	a. Male	6	20.0
	b. Female	24	80.0
	Total	30	100
Relationship to patient	a. Spouse	3	10.0
	b. Parent	4	13.3
	c. Child	14	46.7
	d. Sibling	9	30.0
	Total	30	100
Last Education	a. Elementary school	1	3.3
	b. Junior high school	2	6.7
	c. Senior high school	17	56.7
	d. Higher education	10	33.3
	Total	30	100
Work	a. Not employed/Housewife	10	33.3
	b. Student	1	3.3
	c. Government employee	4	13.3
	d. Private sector employee	4	13.3
	e. Self-employed	11	36.67
	Total	30	100

Table 1 shows that total of 30 family

members of ICU patients participated in this study. Most respondents were aged 36–45 years (40.0%), followed by those aged 26–35 years (30.0%). The majority were female (80.0%). Nearly half of the respondents were the patients' children (46.7%), followed by siblings (30.0%). Regarding education level, most respondents had completed senior high school (56.7%), while 33.3% had higher education. In terms of occupation, the largest proportion were self-employed (36.7%) or unemployed/housewives (33.3%).

B. SPECIAL DATA

TABLE 2
COMPARISON OF FAMILY SERVICE SATISFACTION SCORES BEFORE AND AFTER THE PROVISION OF STRUCTURED INFORMATION (N = 30)

Statistic	Pretest	Posttest	Difference (Δ)
Minimum score	58	71	+13
Maximum score	86	86	0
Mean	77.13	79.30	+2.17
Median	77.50	79.50	+2.00
Standart deviation	6.101	4.095	
Wilcoxon Signed Rank Test $p = 0.001$			

According to Table 2, the minimum satisfaction score increased from 58 before the intervention to 71 after the intervention, while the maximum score remained unchanged. The mean satisfaction score increased by 2.17 points following the provision of structured information. Results of the Wilcoxon Signed Rank Test showed a significant change in satisfaction scores from pretest to posttest ($p < 0.05$), indicating that the intervention had a significant effect.

TABLE 3
DISTRIBUTION OF SERVICE SATISFACTION LEVELS BEFORE AND AFTER THE INTERVENTION (N = 30)

Satisfaction Level	*Pre-test*		*Post-test*	
	f	%	f	%
Very dissatisfied	0	0%	0	0%
Dissatisfied	1	3.3%	0	0%
Satisfied	22	73.3%	19	63.3%
Very satisfied	7	23.3%	11	36.7%
Total	100	100%	100	100%

Table 3 demonstrates a shift toward higher satisfaction levels after the intervention. The proportion of respondents classified as very satisfied increased from 23.3% before the intervention to 36.7% after the intervention. In contrast, the proportion of respondents categorized as satisfied decreased from 73.3% to 63.3%. Additionally, no respondents were categorized as dissatisfied or very dissatisfied in the post-test assessment.

TABLE 4
MEAN SCORES OF SERVICE SATISFACTION DIMENSIONS BEFORE AND AFTER THE PROVISION OF STRUCTURED INFORMATION

Dimension	Mean Pretest	Mean Posttest	Difference (Δ)
Responsiveness	15.07	15.50	+0.43
Reliability	15.47	15.83	+0.36
Empathy	15.97	16.30	+0.33
Assurance	15.93	16.20	+0.27
Tangibles	14.70	15.47	+0.77

As shown in Table 4, all SERVQUAL dimensions demonstrated increased mean scores after the intervention. The largest improvement was observed in the tangibles dimension (+0.77), followed by responsiveness (+0.43), reliability (+0.36), empathy (+0.33), and assurance (+0.27). These findings indicate that the provision of structured information positively influenced both perceived service quality and family satisfaction across all dimensions.

DISCUSSION

This study demonstrated a significant improvement in family service satisfaction following the provision of structured information in the ICU waiting area. The mean satisfaction score increased from 77.13 before the intervention to 79.30 after the intervention, accompanied by a reduction in standard deviation. This pattern suggests not only an overall improvement in satisfaction but also a more homogeneous perception among respondents following the provision of structured information. The relatively high mean and median scores before the intervention suggest that most family members had already perceived ICU services as satisfactory, even before the implementation of the intervention.

High baseline satisfaction levels have also been reported in several ICU studies, indicating that families may express positive evaluations even in the presence of emotional distress, particularly when basic informational and emotional needs are partially met [5]. Conversely, other studies have reported more moderate satisfaction levels, suggesting that family satisfaction is highly context-dependent and influenced by service organization and communication practices [6]. These findings suggest that satisfaction should be interpreted within its service and cultural context rather than as an absolute indicator of optimal care quality.

Analysis using the Wilcoxon Signed Rank Test demonstrated that scores differed significantly

following the intervention (p = 0.001). Importantly, no respondents experienced a decrease in satisfaction, while 14 respondents showed increased scores and 16 respondents demonstrated stable scores (ties). This pattern suggests that the intervention had a positive effect, although the magnitude of change varied across individuals. The absence of declining scores further indicates that the intervention did not negatively affect any aspect of perceived service quality. High baseline satisfaction scores may reflect effective routine practices already implemented in the ICU, including professional staff attitudes, empathy, and basic information sharing. However, high initial satisfaction does not necessarily imply that all family needs were optimally fulfilled. Satisfaction is a multidimensional construct that may coexist with unmet informational or emotional needs, particularly in high-stress environments such as ICUs.

The presence of stable scores is consistent with the ceiling effect, which commonly occurs when baseline satisfaction levels are already high, limiting observable score changes despite meaningful experiential improvements [7]. Similar findings have been reported in nurse-led educational interventions in ICU settings, where not all families exhibit measurable score increases despite improved communication and understanding [8].

In addition to changes in numerical scores, shifts in satisfaction categories further illustrate the positive impact of the intervention. Following the intervention, the proportion of respondents categorized as very satisfied increased from 23.3% to 36.7%, while the proportion of respondents classified as satisfied decreased from 73.3% to 63.3%, and no respondents remained in the dissatisfied category after the intervention. This distribution indicates a positive shift toward higher satisfaction levels without the emergence of negative perceptions. This shift reflects a redistribution of respondents from the satisfied category to the very satisfied category. Such transitions commonly occur when interventions enhance qualitative aspects of care, including clarity of communication, emotional reassurance, and perceived support, rather than introducing new clinical services [9]. Previous studies have emphasized that family satisfaction categories are sensitive to improvements in communication and perceived attentiveness of healthcare providers, particularly when families receive clearer explanations and feel more involved in the care process, their evaluations tend to shift toward higher satisfaction classifications, even when baseline satisfaction is already favorable [8], [10]. Furthermore, the absence of dissatisfied respondents after the intervention suggests that structured information may help reduce uncertainty and anxiety, which are known contributors to negative service evaluations in critical care settings [11].

Analysis of SERVQUAL dimensions demonstrated increased mean scores following the intervention. The largest improvement was observed in the tangibles dimension, indicating enhanced perceptions of the physical environment and availability of informational materials. Environmental clarity and facility-related explanations may help families feel more oriented during prolonged waiting periods. This finding aligns with the servicescape concept proposed by Bitner (1992), which emphasizes the role of physical and informational environments in shaping user satisfaction [12]. Previous studies have similarly reported that families tend to express lower satisfaction with ICU environments and family support facilities compared to direct patient care and staff professionalism [11].

The empathy and assurance dimensions remained the highest-scoring aspects both before and after the intervention. These dimensions are closely associated with emotional support, trust, and interpersonal communication, which consistently emerge as key determinants of family satisfaction in ICU settings [8], [10]. The provision structured information by nurses may reinforce these dimensions by increasing families' confidence and sense of involvement in the care process. Although improvements were observed across all dimensions, gains in responsiveness were relatively modest. This suggests that perceptions related to response speed and staff accessibility may be influenced not only by information clarity but also by broader organizational factors, including staffing levels and workload distribution, as noted in previous ICU satisfaction studies [9].

CONCLUSION AND SUGGESTION

A. CONCLUSION

This study found a significant improvement in family service satisfaction following the delivery of structured information on basic family needs in the ICU waiting room of Ibnu Sina General Hospital, Gresik. Family satisfaction scores increased after the intervention, accompanied by reduced score variability, indicating more consistent perceptions of service quality among respondents. Results of the Wilcoxon Signed-Rank Test showed that satisfaction scores differed significantly following the intervention (p = 0.001). These findings highlight that structured, nurse-led informational interventions can positively influence family perceptions of ICU services, particularly in enhancing clarity, reassurance, and overall service experience, even in settings where baseline satisfaction levels are already relatively high.

SUGGESTION

Future research is recommended to explore additional factors that may influence family satisfaction in ICU settings, such as psychological stress levels, coping mechanisms, cultural expectations, and environmental conditions, using larger samples and comparative or longitudinal designs.

For nursing practice, the findings support strengthening nurses' roles as educators and communicators by integrating structured family information into routine ICU care as part of holistic and family-centered nursing services. Continuous training on effective communication, emotional support, and family engagement is recommended to sustain high levels of empathy and assurance, which consistently showed strong satisfaction scores.

At the institutional level, hospitals are encouraged to apply the provision of structured family information as a comprehensive service strategy addressing all dimensions of service quality. Improvements in the tangibles dimension may include optimizing the ICU waiting room environment, ensuring the availability of clear informational materials, and enhancing physical comfort. To strengthen responsiveness, hospitals should establish clear communication schedules, designated contact personnel, or briefing times to improve perceived accessibility and timeliness of information. Enhancing reliability and assurance can be achieved by standardizing information content through protocols or guidelines to ensure consistency and accuracy of messages delivered to families. Meanwhile, maintaining and reinforcing empathy requires institutional support for nurse–family interactions, including adequate staffing and supportive work environments that allow nurses to communicate attentively and compassionately.

Hospitals are therefore encouraged to formalize structured family information provision through standard operating procedures, supported by educational media such as leaflets, audiovisual materials, or scheduled counseling sessions. Integrating these strategies into routine ICU services may help ensure consistent, accessible, and patient-centered care while sustaining family satisfaction across all service quality dimensions.

REFERENCES

[1] V. Fitriana, E. S. Wulan, and A. C. Laura, "Gambaran caring perawat di intensive care unit (ICU) RSUD RA Kartini Jepara," The Shine Cahaya Dunia Ners, vol. 8, no. 2, pp. 51–59, 2023. DOI: 10.35720/tscners.v8i02.438.

[2] S. Sujarwadi, M. Mokh. Toha, I. Zuhroidah, and N. Asmaningrum, "Analisis pemenuhan kebutuhan spiritualitas pasien (alis mata sapi) dalam pelayanan asuhan keperawatan berbasis pendekatan kearifan lokal," Jurnal Keperawatan, vol. 15, no. 4, pp. 1743–1748, 2023. DOI: 10.32583/keperawatan.v15i4.1239.

[3] F. Zulfia, S. R. H. Damanik, and D. Karim, "Kebutuhan keluarga pasien yang terpasang ventilator di Intensive Care Unit (ICU)," Jurnal Keperawatan Profesional (JKP), vol. 13, no. 1, pp. 1–13, 2025. DOI: 10.33650/jkp.v13i1.9565.

[4] U. Hasanah, R. Sitorus, and A. Waluyo, "Peningkatan kepuasan pasien dan keluarga terhadap pelayanan keperawatan dengan melibatkan keluarga dalam pemberian kebutuhan dasar di unit perawatan intensif: Literature review," Jurnal Penelitian Kesehatan Suara Forikes, vol. 11, pp. 10–15, 2020. DOI: 10.33846/sf11nk303.

[5] A. S. Sakanti, A. S. Siwi, and I. Susanti, "Fulfillment of family needs toward family satisfaction during care in the intensive care unit," Indogenius, vol. 4, no. 3, pp. 781–789, 2025. DOI: 10.56359/igj.v4i3.742.

[6] H. Hasbi, W. Wiyadi, and A. Amiruddin, "Hubungan kualitas pelayanan perawatan dengan tingkat kepuasan keluarga pasien di ruang Intensive Care Unit (ICU) RSD dr. H. Soemarno Sosroatmodjo Tanjung Selor tahun 2023," Saintekes: Jurnal Sains, Teknologi dan Kesehatan, vol. 2, no. 2, pp. 249–256, 2023. DOI: 10.55681/saintekes.v2i2.80.

[7] J. Arslan and K. Benke, "Statistical analysis of ceiling and floor effects in medical trials," Applied Biosciences, vol. 2, no. 4, pp. 668–681, 2023. DOI: 10.3390/applbiosci2040042.

[8] R. Naef et al., "Nurse-led family support intervention for families of critically ill patients: The FICUS cluster randomized clinical trial," JAMA Internal Medicine, vol. 185, no. 9, pp. 1138–1149, 2025. DOI: 10.1001/jamainternmed.2025.3406.

[9] A. Checa-Checa, V. Medina-Maldonado, A. Ramírez, and J. Rodríguez Diez, "Family support strategies during intensive care unit: A systematic review," Inquiry: A Journal of Medical Care Organization, Provision and Financing, vol. 62, 2025. DOI: 10.1177/00469580251368654.

[10] L. Kalhor, A. Ebadi, J. M. Nouri, and B. Nehrir, "Level of satisfaction of families of patients hospitalized in adult intensive care unit with the quality of care: A cross-sectional descriptive study," Journal of Education and Health Promotion, vol. 14, no. 1, 2025. DOI: 10.4103/jehp.jehp_703_24.

[11] T. Liyew, A. Mersha, B. Admassie, and N. Arefayne, "Family satisfaction with care provided in intensive care unit: A multi-

center, cross-sectional study," Patient Related Outcome Measures, vol. 15, pp. 105–119, 2024. DOI: 10.2147/PROM.S453246.

[12] S. An, P. Lee, and C. H. Shin, "Effects of servicescapes on interaction quality, service quality, and behavioral intention in a healthcare setting," Healthcare (Switzerland), vol. 11, no. 18, 2023. DOI: 10.3390/healthcare11182498.