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Fast Nurses' Response Time and Mild Family Anxiety in the Emergency Department of RSUD Undata Palu

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ABSTRACT
Background: Response time is an important indicator of emergency nursing service quality and may influence the anxiety level of patients' families. Delays in treatment can increase fear, uncertainty, and dissatisfaction among family members in emergencies. This study aimed to determine the relationship between nurses' response time and family anxiety levels in the Emergency Department of RSUD Undata Palu.
Methods: This quantitative study used a correlational design with a cross-sectional approach. A total of 68 respondents were selected using consecutive sampling. Nurses' response time was measured using observation sheets and a stopwatch, while family anxiety levels were assessed using the Hamilton Anxiety Rating Scale (HARS). Data were analyzed using frequency distributions and Fisher's Exact Test, as several cells in the cross-tabulation had expected counts less than 5.
Results: Most nurses' response times were categorized as fast (≤5 minutes), with 67 respondents (98.5%) and only 1 respondent (1.5%) experiencing a slow response time. Regarding anxiety levels, 46 respondents (67.6%) experienced mild anxiety and 22 respondents (32.4%) experienced severe anxiety. Fisher's Exact Test showed no statistically significant relationship between nurses' response time and family anxiety levels (p=0.324), although mild anxiety was more frequently observed among respondents who experienced fast response time.
Conclusion: Nurses' response time in the Emergency Department of RSUD Undata Palu was generally fast, and most family members experienced mild anxiety. However, there was no statistically significant relationship between nurses' response time and family anxiety levels. These findings should be interpreted cautiously due to the highly unequal distribution of response time categories.

INTRODUCTION

Emergency department (ED) services are an essential component of hospital healthcare systems because they provide immediate treatment for patients with life-threatening and emergency conditions. Emergency care requires rapid, accurate, and appropriate interventions to prevent mortality, disability, and worsening patient conditions (Demir et al., 2023; Souza et al.,

2021). The quality of emergency nursing services is commonly measured through response time (Arifianti & Purwokerto, 2023; Rahman & Nu, 2025), which refers to the time interval between patient arrival and the initiation of healthcare interventions. Response time is considered one of the most important indicators of emergency healthcare quality because delayed treatment can negatively affect patient outcomes and satisfaction (Reynaldi et al., 2024).

The World Health Organization reported that emergency department visits continue to increase each year, resulting in higher workloads among healthcare workers and challenges in maintaining optimal emergency response systems (WHO, 2019). In Indonesia, emergency healthcare services are also experiencing increased patient visits, particularly in referral hospitals. The Ministry of Health of the Republic of Indonesia reported that emergency departments remain among the busiest hospital units due to increasing cases of trauma, acute diseases, and critical conditions (Kemenkes RI, 2022). The high number of emergency visits may affect nurses' response time and the quality of patient care.

Response time in emergency departments is closely associated with triage systems that prioritize patients based on the severity of their conditions rather than the order of arrival. Triage systems aim to ensure that critically ill patients receive immediate treatment to minimize complications and mortality risks (Bazmul et al., 2018; Ramdani, 2025). In Indonesia, the standard response time for emergency services, as established by the Ministry of Health, is ≤5 minutes (Brice et al., 2022; Rahman & Nu, 2025). Failure to meet this standard may increase dissatisfaction and anxiety among patients and their families.

Family anxiety is a common psychological response experienced while accompanying patients in emergencies. Anxiety may arise because of uncertainty regarding the patient's condition, fear of death, unfamiliar hospital environments, and limited understanding of emergency treatment procedures. Family members often experience emotional distress while waiting for healthcare interventions, particularly when treatment appears delayed or communication from healthcare providers is limited. Previous studies reported that delayed nursing response time significantly contributes to increased anxiety levels among family members in emergency departments (Ambarika et al., 2024; Rohman et al., 2023).

In emergency care settings, rapid nursing response may provide reassurance and emotional comfort for patients' families. Family members tend to perceive fast treatment as an indication that healthcare providers are competent and responsive to patient needs (Pratama et al., 2022). Conversely, delayed interventions may trigger fear, frustration, and distrust toward healthcare services. Research conducted found that prolonged response time was associated with higher anxiety levels among family members of stroke patients in emergency rooms. Similarly, a study demonstrated that delayed response time among yellow triage patients was significantly related to increased family anxiety (Rahmawati et al., 2022).

Therapeutic communication also plays an important role in reducing anxiety among family members in emergency settings. Effective communication from nurses regarding patient conditions, treatment priorities, and triage procedures can improve family understanding and emotional stability (Nugroho & Auliya, 2024). Furthermore, family-centered approaches and emotional support during emergency care have been shown to reduce stress and anxiety among patients and their families. Therefore, emergency nurses are expected not only to provide rapid treatment but also to communicate effectively with family members during emergencies (Noommeechai et al., 2023).

Several factors may influence nurses' response time in emergency departments, including workload, staffing adequacy, triage systems, work experience, and environmental conditions within the emergency unit. A recent study in Indonesia reported that nurses' education level, work environment, and organizational support significantly influenced response time performance in emergency care services (Ramdani, 2025). High patient loads and overcrowding may hinder timely interventions and contribute to psychological distress among accompanying family members.

RSUD Undata Palu is one of the referral hospitals in Central Sulawesi Province with a high number of emergency patient visits each year. Preliminary observations conducted in the Emergency Department revealed that some family members frequently complained about waiting

times and uncertainty regarding patient treatment processes. Family members were often observed expressing anxiety, repeatedly asking about the patient's condition, and demonstrating emotional distress while waiting for emergency interventions. Although the emergency department has implemented a triage system to prioritize patient care, concerns regarding response time and family anxiety remain important issues requiring further investigation.

Based on these conditions, this study aimed to determine the relationship between nurses' response time and patients' family members' anxiety levels in the Emergency Department of RSUD Undata Palu, Central Sulawesi Province. The findings of this study are expected to contribute to improving emergency nursing services, strengthening communication strategies, and enhancing family-centered care approaches in emergency healthcare settings.

METHODS

This study employed a quantitative research method with a correlational design using a cross-sectional approach. The study aimed to identify the relationship between nurses' response time and patients' family members' anxiety levels in the Emergency Department of RSUD Undata Palu, Central Sulawesi Province. The research was conducted in March 2025 at the Emergency Department of RSUD Undata Palu, a referral hospital in Central Sulawesi Province.

The study population consisted of all family members accompanying patients to the Emergency Department of RSUD Undata Palu. Preliminary data indicate that 1,030 patients visited the emergency department in January 2025. The sample size was calculated using the Slovin formula, yielding 68 respondents. Respondents were selected using a consecutive sampling technique according to predetermined inclusion and exclusion criteria. Inclusion criteria included family members accompanying and waiting for patients in the emergency department, aged 18 years or older, able to communicate well, and willing to participate in the study. Exclusion criteria included individuals without a direct family relationship to the patient and respondents who experienced extreme emotional states, such as panic or hysteria, during data collection.

Data collection was conducted after obtaining permission from the Health Polytechnic of the Ministry of Health, Palu, and RSUD Undata Palu. Researchers explained the purpose and procedures of the study to respondents before obtaining written informed consent. Nurses' response time was measured using an observation sheet and a stopwatch, recording the time from patient arrival until the initial nursing intervention was provided. Response time was categorized as fast if the duration was ≤5 minutes and slow if >5 minutes.

The anxiety level of patients' families was measured using the Hamilton Anxiety Rating Scale (HARS) questionnaire, consisting of 14 assessment items. The questionnaire used a Likert scale with scores ranging from 0 to 4. Anxiety levels were categorized into mild anxiety (score 1–28) and severe anxiety (score ≥29). The HARS instrument had previously undergone validity and reliability testing, with Pearson correlation values ranging from 0.529 to 0.967 and a Cronbach's alpha value of 0.756, indicating that the instrument was valid and reliable.

Data processing included editing, coding, scoring, tabulation, and data entry using the Statistical Package for the Social Sciences (SPSS). Descriptive statistical analysis was used to present frequency distributions and percentages for each variable studied. The relationship between nurses' response time and family anxiety level was analyzed using Fisher's Exact Test because the cross-tabulation contained cells with expected counts less than 5. A p-value of <0.05 was considered statistically significant.

Ethical principles were applied throughout the study process, including informed consent, confidentiality, anonymity, respondents' rights, safety, and non-discrimination. The study ensured that all participant information remained confidential and was used solely for research purposes. Respondents were informed that participation was voluntary and that they could withdraw from the study at any time without consequences. Ethical approval for this study was obtained from the Health Research Ethics Committee of Poltekkes Kemenkes Palu, Indonesia, with ethical clearance number No.000584/KEPK POLTEKKES KEMENKES PALU/2025

RESULTS

The study was conducted in the Emergency Department of RSUD Undata Palu, Central Sulawesi Province, and involved 68 respondents who were family members accompanying patients during emergency care. The characteristics of respondents included age and gender distributions, while the main variables studied were nurses' response time and patients' family members' anxiety levels.

Descriptive Statistics

Table 1 presents the demographic characteristics of the respondents. The majority of respondents were female (66.2%), while male respondents accounted for 33.8%. Based on age distribution, most respondents were in the 19–23 and 24–28 age groups, each representing 20.6% of the total respondents.

Table 1. Characteristics of Respondents in the Emergency Department of RSUD Undata Palu

Variables	n	%
Age		
19–23 years	14	20.6
24–28 years	14	20.6
29–33 years	11	16.2
34–38 years	8	11.8
39–43 years	10	14.7
44–48 years	7	10.3
49–53 years	4	5.9
63 years	1	1.5
Gender		
Male	23	33.8
Female	45	66.2

Source: Primary data, 2026

Table 1 indicates that respondents were predominantly female and mostly within productive age groups. Younger family members were more likely to accompany patients in emergencies.

Primary Outcome Measures

The primary outcomes of this study were nurses' response time and family anxiety levels. Table 2 shows that most nurses' response times were fast (≤5 minutes), with 67 respondents (98.5%) categorized as fast, whereas only 1 respondent (1.5%) had a slow response time (>5 minutes). Regarding anxiety levels, the majority of respondents experienced mild anxiety, with 46 respondents (67.6%), while 22 respondents (32.4%) experienced severe anxiety.

Table 2. Distribution of Nurses' Response Time and Family Anxiety Levels

Variabels	n	%
Nurses' Response Time		
Fast (≤5 minutes)	67	98.5
Slow (>5 minutes)	1	1.5
Family Anxiety Level		
Mild Anxiety	46	67.6
Severe Anxiety	22	32.4

Source: Primary data, 2026

The findings indicate that emergency nursing services in RSUD Undata Palu generally met the recommended emergency response time standards. Most family members experienced mild anxiety despite being in emergencies.

Cross-tabulation Analysis

Cross-tabulation analysis between nurses' response time and family anxiety level is presented in Table 3. Among respondents who experienced fast response time (≤5 minutes), 46

respondents (67.6%) experienced mild anxiety, and 21 respondents (30.8%) experienced severe anxiety. Meanwhile, the only respondent who experienced slow response time (>5 minutes) was categorized as having severe anxiety (1.5%).

Table 3. Cross-tabulation of Nurses' Response Time and Family Anxiety Levels

Response Time	Family Anxiety Levels		Total n (%)	p-value
	Mild Anxiety n (%)	Severe Anxiety n (%)		
Fast (≤5 minutes)	46 (67.6)	21 (30.8)	67 (98.5)	
Slow (>5 minutes)	0 (0)	1 (1.5)	1 (1.5)	
Total	46 (67.6)	22 (32.4)	68 (100)	0.324

Source: Primary data, 2026

The relationship between nurses' response time and family anxiety level was analyzed using Fisher's Exact Test because several cells had expected counts of fewer than 5. The analysis showed a p-value of 0.324 (p>0.05), indicating no statistically significant relationship between nurses' response time and family anxiety levels among patients' families in the Emergency Department of RSUD Undata Palu.

DISCUSSION

This study aimed to determine the relationship between nurses' response time and the anxiety level of patients' families in the Emergency Department of RSUD Undata Palu. The findings showed that most nurses' response times were categorized as fast (≤5 minutes), and the majority of family members experienced mild anxiety during emergency care services. These findings indicate that emergency nursing services in RSUD Undata Palu generally met the emergency response standards established by the Indonesian Ministry of Health. Fast response time is an important indicator of the quality and effectiveness of emergency healthcare services, as immediate treatment can prevent deterioration in patients' conditions and increase family confidence in healthcare providers.

The results demonstrated that 98.5% of nurses provided initial treatment within five minutes after patient arrival. This finding reflects good preparedness among emergency nurses to handle emergencies and suggests that the hospital's Emergency Severity Index (ESI) triage system functions effectively. Previous studies have reported that rapid nursing response contributes significantly to patient satisfaction and perceived quality of healthcare services in emergency departments (Mokoginta & Gunawan, 2025). Timely treatment also reduces uncertainty experienced by patients' families while waiting for medical intervention (Lajali et al., 2023).

This study also found that most respondents experienced mild anxiety, while approximately one-third experienced severe anxiety. Anxiety among family members is common in emergencies because emergency departments are often perceived as stressful, unfamiliar, and unpredictable environments. Family members may fear worsening patient conditions, death, or delayed treatment (Aprianus & Sahrudi, 2024; Muldiansyah & Sahrudi, 2025) In this study, respondents who experienced mild anxiety may have been reassured by the rapid nursing response and visible emergency management provided by healthcare workers.

The cross-tabulation analysis showed that respondents who experienced a fast response time were more likely to have mild anxiety levels. Conversely, the only respondent who experienced delayed response time was categorized as having severe anxiety. However, Fisher's Exact Test showed no statistically significant relationship between nurses' response time and family anxiety levels (p=0.324). This finding may be influenced by the highly unequal distribution of response time categories, where almost all respondents experienced fast response times. Therefore, although rapid nursing response may provide reassurance, reduce uncertainty, and improve trust in healthcare services, the present study could not statistically confirm a significant association between response time and family anxiety levels.

Although the statistical result of this study was not significant, the descriptive pattern is in line with previous research suggesting that delayed response time may be associated with increased anxiety and dissatisfaction among patients' families in emergency care settings. Anxiety

may arise not only because of patient conditions but also due to limited communication and inadequate understanding of the triage process (Solikhin et al., 2025). Family members may perceive delayed treatment as negligence, even though emergency care prioritizes patients by severity rather than arrival order (Lasman et al., 2023). Therefore, effective communication between nurses and family members is essential in reducing misconceptions and emotional distress during emergency treatment.

Several factors may contribute to family anxiety levels besides response time, including the severity of the patient's condition, emotional attachment between family members and patients, previous hospitalization experiences, and family understanding of emergency procedures. Younger and female respondents dominated this study, which may also influence anxiety levels, as women tend to express emotional responses more openly in stressful situations (Radadi et al., 2025; Waladani et al., 2025; Yesil & Butun, 2025). Additionally, family members who were unfamiliar with emergency department procedures may experience greater anxiety due to uncertainty regarding patient outcomes.

This study has several limitations. First, the study used a relatively small sample size from a single hospital, limiting the generalizability of the findings to other healthcare settings. Second, the study employed a descriptive cross-sectional design, which cannot establish causal relationships between response time and anxiety levels. Third, psychological factors such as coping mechanisms, educational background, and social support were not explored comprehensively. Future studies are recommended to involve larger populations, multiple hospitals, and additional variables related to psychological and healthcare service factors.

Despite these limitations, this study provides important evidence regarding the relationship between emergency nursing response time and family anxiety levels. The findings highlight the importance of maintaining rapid emergency response systems while improving interpersonal communication and emotional support for patients' families. Hospitals should continue strengthening emergency service management, nurse readiness, and family-centered communication approaches to enhance the quality of emergency healthcare services and reduce anxiety among family members accompanying patients in emergencies.

CONCLUSION

This study concluded that nurses' response time in the Emergency Department of RSUD Undata Palu was predominantly fast, with most nurses providing initial treatment within 5 minutes of patient arrival. The majority of patients' family members experienced mild anxiety while accompanying patients in emergencies. However, Fisher's Exact Test showed no statistically significant relationship between nurses' response time and family anxiety levels ($p=0.324$).

The absence of a statistically significant relationship may be influenced by the highly unequal distribution of response time categories, as almost all respondents experienced fast response times. Therefore, the findings should be interpreted cautiously. Although rapid nursing response remains important in emergency care, family anxiety may also be influenced by other factors, such as patient condition severity, emotional attachment, previous hospitalization experiences, and understanding of emergency procedures.

Hospitals are encouraged to maintain optimal response time performance while improving interpersonal communication and emotional support for patients' families. Future studies are recommended to involve larger samples, more balanced response time categories, and additional variables associated with family anxiety in emergency settings.

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