

Analysis of Nurses Knowledge Level and Attitude Toward Triage in the Emergency Department of RSI Asyifa

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Abstract

Emergency care refers to clinical conditions that demand immediate medical intervention to save lives and prevent disabilities. The Emergency Department (ED) acts as the main entry point for urgent cases, requiring patient prioritization through a triage system. Triage plays a vital role in determining the urgency of medical treatment within a short time frame since accurate and prompt responses directly affect patient outcomes. This study contributed to analyzing the relationship between nurses' knowledge levels and their attitudes toward triage implementation in the Emergency Department of RSI Asyifa. The research adopted a quantitative descriptive design involving 19 nurses through total sampling. Data were analyzed using the Spearman Rank correlation test, yielding a p-value of 0.000 and a correlation coefficient of 0.780, indicating a strong and significant relationship between the two variables. The higher the nurses' knowledge level about triage, the more positive their attitude becomes. The findings are expected to guide hospital management in improving the quality of emergency services.

Keywords: Attitude; Emergency Department; Knowledge; Triage

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1. Introduction

Hospitals are healthcare institutions that provide individual health services, including inpatient care, outpatient care, and emergency services (Ministry of Health of the Republic of Indonesia, 2018). The emergency unit, or Emergency Department (ED), provides medical interventions for urgent or critical situations that must be immediately addressed to save lives and prevent disabilities, as outlined in the Decree of the Minister of Health of the Republic of Indonesia No. 47 of 2018. Several factors make the ED unique, particularly the need for immediate action despite unclear patient health histories.

Emergencies are clinical conditions that demand immediate medical intervention to save lives and prevent disabilities (Ministry of Health of the Republic of Indonesia, 2018). According to Article 7 of the Regulation of the Minister of Health of the Republic of Indonesia No. 47 of 2018, emergency medical care within healthcare facilities should be conducted at hospitals according to specific service criteria, ranging from level I to level IV. Emergency care follows the principle of "Time Saving is Life Saving," meaning that all

actions taken during an emergency must be highly effective and efficient. Delays of just a few minutes can result in fatal outcomes, as respiratory arrest lasting 2-3 minutes can lead to death (Maatilu, 2014).

The Emergency Department (ED) serves as the main entry point for patients, and triage is a vital procedure to classify and prioritize patients based on the severity of their condition (Gustia & Manurung, 2013). Triage is intended to minimize harm during the patient rescue process. The primary purpose of triage is to ensure that the most critical patients are treated first, while those with less severe conditions are attended to afterward (Sudrajat, 2014). Inadequate triage practices, especially during high patient volumes, can lead to overcrowding in the ED, resulting in delays in life-saving treatments for critically ill patients (Schuetz et al., 2013).

Triage requires nurses who are knowledgeable and skilled in assessing patient conditions. Nurses are required to have specific training, such as the Emergency Patient Management (PPGD) and Basic Trauma Cardiac Life Support (BTCLS) certifications, to perform

triage effectively (Mardalena, 2016). Knowledge of triage protocols, including priority 1 (red), priority 2 (yellow), priority 3 (green), and priority 4 (black), is essential for proper patient classification and to avoid errors during decision-making (I Gede, 2012 in Budiaji, 2016).

The increasing volume of patients, both urgent and non-urgent, in EDs often results in overcrowding, making it challenging to provide timely care to critically ill patients. Therefore, effective triage becomes even more crucial in minimizing these issues. Nurses' knowledge and attitudes directly influence the accuracy and effectiveness of triage. Several studies have explored the relationship between nurses' knowledge and attitudes toward triage. For instance, Gita Nur Ayni et al. (2019) found a significant correlation between nurses' knowledge and attitudes toward triage in Surakarta, with a Spearman correlation coefficient of 0.753 and a p-value of 0.000. However, Sari and Sutanta (2017) did not find a significant relationship between attitudes and triage implementation, suggesting that personal experiences and emotional factors may also play a role in shaping nurses' attitudes.

Based on previous research, nurses' knowledge of triage in emergency departments is reported to be at a moderate to good level, but there is still a knowledge deficit in certain aspects, and it has not always been followed by proper practice. In addition, a number of studies have found a relationship between knowledge, attitudes, and the ability of nurses to perform triage. Preliminary research conducted at Ciputra Hospital on December 8, 2023, revealed that there were 19 nurses in the ED, consisting of 5 Diploma-level nurses and 14 Professional-level nurses. The ED handles an average of 41 patients daily, with a total of 3,738 visits over the last three months (September–November 2023). Ciputra Hospital has a designated triage area with color-coded lines (red, yellow, green, and black) for efficient patient classification. Therefore, research on the level of knowledge and attitude of nurses towards triage at the Emergency Department of RSI Asyifa is important to understand the actual conditions and support the improvement of the quality of emergency services.

Based on this background, the researcher is interested in exploring the relationship between the knowledge and attitudes of nurses regarding triage in the Emergency Department of RSI Asyifa. This study area is strategically important because triage is the first step in determining the priority of emergency patients and directly affects the speed and quality of care (Mulyadi et al., 2022). Inadequate nurse knowledge or negative attitudes toward triage can lead to delayed treatment,

misclassification of urgency, and increased risk of complications or death (Triage Accuracy of Emergency Nurses, 2024).

Several national studies have shown that nurses' knowledge and attitudes are closely related to triage implementation. For example, Ciputra (2021) and Gita (2021) conducted studies on nurses' knowledge and attitudes toward triage in emergency departments and found a significant relationship between higher levels of knowledge and more accurate triage practices. However, their findings were obtained in different hospital settings and did not specifically address the context of RSI Asyifa, which serves a unique community and patient profile. Therefore, this study is important to obtain localized data that can support the development of targeted training and standard operating procedures for triage at RSI Asyifa.

Furthermore, recent studies indicate that even though many emergency nurses have adequate knowledge, their attitudes and actual practice can still be inconsistent, especially under high-volume or high-stress conditions (Kumar et al., 2022; Emergency Nurses' Knowledge and Practices, 2022). This gap highlights the need to re-examine knowledge and attitudes in each specific hospital, including RSI Asyifa, so that interventions such as in-service training, refresher modules, and supervision can be tailored to the real needs of the nurses (Triage-related Knowledge and Practice, 2025). By analyzing the relationship between nurses' knowledge and attitudes toward triage at RSI Asyifa, this research is expected to contribute empirical evidence for improving triage quality, patient safety, and overall service efficiency in the emergency department

2. Method

This study employed a quantitative descriptive design aimed at portraying the level of knowledge and attitude of nurses toward triage in the Emergency Department (ED) of RSI Asyifa. The research was conducted at RSI Asyifa, Pekalongan City, Central Java, during the period January–February 2024, after obtaining ethical clearance numbered 171/KET/KE-FKES/I/2024 from the Ethics Committee of the Faculty of Health Sciences.

The population in this study consisted of all nurses working in the ED, totaling 19 individuals. Considering the limited population size, the researcher applied a non-probability total sampling technique, whereby all members of the population were included as respondents. Although the sample size is relatively small, total sampling was deemed suitable to capture comprehensive descriptive data from every nurse involved in triage service delivery within the institution.

The data collection procedure began with instrument preparation, followed by the distribution of questionnaires. Each questionnaire comprised two parts: (1) a knowledge measurement section, consisting of 20 multiple-choice items about triage procedures, scoring 1 for correct and 0 for incorrect responses, and (2) an attitude measurement section, adopting a Likert scale with four response categories. For positive statements, “strongly agree,” “agree,” “disagree,” and “strongly disagree” were scored 4, 3, 2, and 1, respectively; for negative statements, the scoring was reversed. Higher total scores indicated more positive attitudes toward triage implementation.

Respondents filled out the questionnaire independently without researcher assistance, using a self-completion method (Swarjana, 2015). After the responses were collected, data were validated, coded, and analyzed using non-parametric Spearman Rank correlation analysis, as the variables were measured on an ordinal scale. The analysis aimed to determine the relationship between nurses’ knowledge level and their attitudes toward triage.

The results of this study are expected to provide a descriptive overview of nurses’ cognitive understanding and attitudinal readiness toward triage in the ED of RSI Asyifa, forming a foundation for potential improvements in emergency nursing training and triage implementation strategies.

3. Results and Discussion

In the [Table 1](#), it can be concluded that the sample in this study, who were the respondents, were mostly male, as many as 10 people (52.6%). Most of the respondents were aged 18-45 years old, as many as 19 people (100%). Most of the respondents' last education was nurses as many as 14 people (73.7%). Most of the long-term jobs that respondents were <5 years, as many as 11 people (57.9%). And all of the education/training regarding nursing in the Emergency Installation (IGD) room that became the respondents were to participate in *Basic Trauma Cardiac Life Support* (BTCLS), as many as 19 people (100%).

Based on [Table 2](#), the results of the knowledge level of triage nurses in emergency installations are mostly in the good category, with 14 people (73.7%).

Based on [Table 3](#), the results of the attitude of triage nurses in the emergency department with a total of 19 samples, most of them were in the good category, as many as 12 people (63.2%).

Based on [Table 4](#) above, the results of the statistical test with the *Rank Spearman correlation test rho*, the P value produced was $0.000 < 0.05$, where it can be concluded that there is a

statistically significant correlation between the level of knowledge and the attitude of the triage nurse in the Assyifa Hospital Emergency Facility. And the value of the correlation coefficient of the two variables has a positive value of 0.780, which means that the level of correlation strength in the category is very strong. The higher the level of knowledge possessed by triage nurses in the Emergency Department, the higher the attitude of the triage nurse in the Emergency Department. Therefore, the hypothesis in this study is acceptable, namely that there is a positive relationship between the level of knowledge and the attitude of triage nurses in the Emergency Installation of Assyifa Hospital

Table 1. Distribution of Respondents by Gender, Age, Education, Length of Employment, and Training (n=19)

Yes	Variable		Sum	(%)
1	Gender	Man	10	52.6
		Woman	9	47.4
2	Age	18-45 years old	19	100
		> 45 years old	0	0.0
3	Ultimate Education	DIII	5	26.3
		S1	0	0.0
		Ners	14	73.7
4	Long Time Working	< 5 Years	11	57.9
		5 – 10 Years	5	26.3
		10 – 15 Years	3	15.8
		> 15 Years	0	0.0
5	Training	Never	0	0.0
		BTCL	19	100
		BLS	0	0.0
		PPGD	0	0.0
		BCLS	0	0.0
		ACLS	0	0.0
		ATLS	0	0.0
ENIL	0	0.0		

Table 2. Distribution of Triage Nurse Knowledge Levels in Emergency Installations

Knowledge	F	%
Good	14	73.7
Enough	5	26.3
Less	0	0.0
Total	19	100

Table 3. Distribution of Triage Nurse Attitudes in Emergency Installations

Attitude	F	%
Good	12	63.2
Enough	7	36.8
Less	0	0.0
Total	19	100

Table 4. Relationship between Knowledge Level and Attitude of Triage Nurses in Emergency Settings

Knowledge Level	Nurse Attitude						Total		Correlation Coefficient	P Value
	Good		Enough		Less		F	%		
	F	%	F	%	F	%				
Good	12	63.2 %	2	10.5%	0	0.0%	14	73.7 %	0.780	0.000
Enough	0	0.0%	5	26.3%	0	0.0%	5	25.3 %		
Less	0	0.0 %	0	0.0%	0	0.0%	0	0.0%		
Total	12	63.2 %	26	36.8%	0,0%	0,0%	19	100%		

Knowledge

Based on the research findings, the majority of triage nurses at the Emergency Department of Ciputra Hospital Citra Raya Tangerang were classified as having good knowledge, with 14 nurses (73.7%) in this category. This indicates that most respondents possessed a good understanding of triage and were able to perform emergency procedures effectively, particularly when making decisions and categorizing incoming patients in the ED. They could appropriately determine whether a patient was an emergency, urgent, or non-urgent case, ensuring that patient care was administered according to the triage protocol for the safety and recovery of the patients.

[Martanti \(2015\)](#) reported that 95% of nurses had good knowledge of triage, while 5% had poor knowledge. When healthcare workers possess good knowledge about their tasks, they can perform their duties well. Conversely, inadequate knowledge can lead to errors. Nurses performing triage should be certified in emergency patient management training, such as PPGD (Emergency Patient Management) or BTCLS (Basic Trauma Cardiac Life Support). In [Duko's study \(2018\)](#), 51.1% of nurses had good knowledge, while 48.9% had poor knowledge. The low level of knowledge among some nurses was primarily attributed to their lack of specialized training in triage and their limited work experience.

This study aligns with the findings of [Asrullah \(2019\)](#), who reported that 66.7% of nurses had good knowledge and 33.3% had poor knowledge. At the Surgery Emergency Department of RSUP Dr. Wahidin Sudirohusodo Makassar, nurses with good knowledge predominated, and as a result, the implementation of triage was also more effective.

A study conducted by [Aji \(2021\)](#) found that 64% of nurses had good knowledge and 36% had poor knowledge. The nurses at RSUD Kota Tangerang, due to their educational level, demonstrated a good understanding of triage in emergency situations. This knowledge was not just theoretical; they frequently applied it in their daily work routines. In conclusion, nurses with good

knowledge are more capable of implementing triage procedures effectively. Providing continuous education and training, as well as encouraging hands-on practice, plays a crucial role in enhancing their triage skills.

Attitudes

Based on the research findings, the data on the attitudes of Triage Nurses in the Emergency Department at Ciputra Hospital Citra Raya Tangerang, with a total sample of 19, shows that the majority fall into the "good" category, with 12 nurses (63.2%). The positive attitude of nurses in performing triage in the emergency department plays a crucial role in ensuring patient safety and recovery. The attitudes of nurses, whether poor, adequate, or good, in triage execution are influenced by various factors affecting their behavior during triage procedures.

Attitude is defined as a person's response or reaction, often hidden, to a stimulus or object ([Fitriani, 2021](#)). It represents a tendency to respond (positively or negatively) to certain situations or objects. Attitudes are not innate; they are learned and shaped through experience and practice throughout an individual's development. [Azwar \(2028\)](#) states that attitude formation is influenced by several factors, including personal experience, culture, important others, mass media, educational institutions, religious organizations, and emotional factors within the individual. A change in a healthcare worker's attitude toward triage action is influenced by their knowledge, experience, intelligence, and age. Negative attitudes toward triage can arise from factors such as overcrowded patients and inadequate triage bed capacity when many patients arrive simultaneously.

The findings of this study support the research of [Sari and Sutanta \(2017\)](#), where the majority of nurses demonstrated good attitudes in performing triage in the emergency department. Nurses in the emergency department practiced the best triage actions before providing care to patients who arrived needing assistance.

A nurse's attitude also influences their ability to provide proper nursing care, including

the implementation of triage. This is because attitude is an integrated activity, and each nurse has a unique attitude. Through their attitude, individuals continuously interact with their environment, utilizing their senses such as sight, hearing, touch, taste, and smell. Therefore, individuals may have different attitudes even when confronted with the same object. This is possible due to differences in values and individual personality traits.

Thus, in the Emergency Department (ED), the nurse's attitude is crucial. Nurses must be able to prioritize patient care based on clinical decision-making. Knowledge, attitude, and skills in initial assessments are essential for nurses, and they must prioritize patient care based on sound decisions. To support this, nurses require specific knowledge, attitudes, and skills in patient categorization and assessing the urgency of care in triage. This ensures that patient handling is more optimal and directed. To enhance the knowledge, attitude, and skills of nurses, they may participate in training programs such as BTCLS (Basic Training in Cardiac Life Support) or PPGD (Emergency First Aid) (Sari, 2017).

The Relationship Between the Level of Knowledge and the Attitudes of Triage Nurses in the Emergency Department of Ciputra RSI Assyifa

Based on the statistical test results using the Spearman Rank Correlation test, the obtained P-value was $0.000 < 0.05$, which indicates that there is a statistically significant correlation between the level of knowledge and the attitudes of triage nurses in the Emergency Department of Ciputra Hospital Citra Raya Tangerang. The correlation coefficient between the two variables was positive at 0.780, indicating a very strong correlation. The higher the level of knowledge possessed by the triage nurses in the Emergency Department, the higher their attitudes toward triage. Therefore, the hypothesis in this study can be accepted, which is that there is a positive relationship between the level of knowledge and the attitudes of triage nurses in the Emergency Department of Ciputra Hospital Citra Raya Tangerang.

The results of this study are in line with those of Martanti et al. (2015) and Sari and Sutanta (2017), which show that there is a relationship between knowledge and the implementation of triage in the emergency department. Triage knowledge is essential for nurses to determine treatment priorities and make appropriate decisions for patients. Nurses must be able to prioritize patient care based on clinical decision-making, where knowledge is crucial in the initial assessment, and nurses must prioritize care based

on accurate decision-making. To support this, specialized knowledge, attitudes, and skills in patient categorization and triage urgency are needed so that patient management can be more optimal and directed.

The findings also show a significant relationship between the attitudes of Emergency Department nurses toward triage actions with a P-value of 0.002. According to Iwan et al. (2019), there is a relationship between behavioral determinants of nursing staff in patient management in the emergency department, with a P-value of 0.014. Another study by Gurning et al. (2014) found a P-value of 0.006, indicating a relationship between the attitudes of health workers in the emergency department toward triage actions. Attitudes are formed by various influencing factors, one of which is the influence of important or respected individuals, such as supervision by someone deemed important in the work environment, which significantly affects triage actions. A person with a positive attitude tends to understand and process any available information or knowledge because the actions they take are often influenced by their knowledge and experience. This aligns with the findings of this study, where the Odds Ratio (OR) = 9.80, meaning nurses with a positive attitude are ten times more likely to perform triage actions compared to nurses with a negative attitude.

A study by Aji (2021) states that there is a significant relationship between knowledge and the triage skills of nurses in the emergency department, with a P-value of 0.000. Knowledge is an essential aspect that a health worker must possess, as it can influence specific skills. A person with high knowledge will be able to perform tasks effectively and efficiently, thus improving performance.

The results of this study are consistent with those of Khairina (2020), which state that there is a significant relationship between knowledge and the attitudes of triage nurses in the emergency department, with a P-value of 0.000. Knowledge is crucial for healthcare workers, as good knowledge affects the skills they possess. According to Asrullah (2015), there is a relationship between knowledge and the attitudes of triage nurses in the emergency department, with a P-value of 0.006. The higher the level of knowledge, the better the application of triage. Martanti (2015) states that there is a relationship between knowledge and the attitudes of nurses in the implementation of triage with a P-value of 0.025. The emergency department staff at RSUD Wates was able to maintain their triage skills, and the training department is expected to provide refreshing training, such as workshops, pre-conferences, and

case analysis regarding triage to improve knowledge and skills in triage. A study by [Duko \(2018\)](#) also states that there is a relationship between knowledge and triage skills of emergency department nurses, with a P-value of 0.000.

Based on the researcher's assumption, knowledge in triage influences the decision-making process on whether a patient requires immediate care, while still considering the potential complications that may arise after triage. Insufficient knowledge about triage implementation may lead to confusion and misclassification, which can result in inappropriate emergency care management. The level of knowledge regarding triage implementation has a significant impact on triage practices and clinical experience in emergency settings. Skills must be developed and continuously trained to enhance one's ability, making them an expert or professional in a specific field. This is supported by the cross-tabulation analysis, which shows that nurses with adequate knowledge will have an appropriate and positive attitude in triage implementation in the emergency department. Nurses with good knowledge will tend to have a positive attitude in triage practices toward patients. However, nurses with less knowledge about triage will also have a poor attitude toward triage implementation in the emergency department. This study's findings indicate that the better the level of knowledge, the better the attitude of nurses in triage implementation. Knowledge is a crucial aspect that a health worker must have, as it can influence certain skills. A person with high knowledge will be able to perform all tasks effectively and efficiently, thus improving their performance. A person with high knowledge is also more likely to adhere to each action they perform.

4. Conclusions and Suggestions

Based on the statistical test results using the Spearman Rank Correlation test, the P-value obtained was $0.000 < 0.05$, which indicates that there is a statistically significant correlation between the level of knowledge and the attitudes of triage nurses in the Emergency Department of Ciputra Hospital Citra Raya Tangerang. The correlation coefficient between the two variables was positive at 0.780, which indicates a very strong correlation. The higher the level of knowledge possessed by the triage nurses in the Emergency Department, the higher the attitudes of the triage nurses in the Emergency Department. Therefore, the hypothesis in this study can be accepted, which is that there is a positive relationship between the level of knowledge and the attitudes of triage

nurses in the Emergency Department of RSI Assyifa.

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