

## Original Research Article

# FACTORS RELATED TO NURSE'S RESPONSE TIME IN HANDLING OF EMERGENCY PATIENTS

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### Abstract

**Background:** In emergency care, the most important thing to note is the speed of nurses in responding or acting on the first patient who enters the emergency room. This speed is often referred to as response time. Nurse response time is always a measure of the service quality of a hospital or health center. Response times depend on the speed available as well as the quality of assistance to save lives/prevent disability.

**Objectives:** The study aimed to determine the factors related to the response time of nurses in the handling of emergency patients at Lagaligo I Hospital, East Luwu.

**Methods:** Carrying out the research is from June to August 2020. Analytical survey design with a cross-sectional approach. The research subjects were 24 nurses. measuring tools, namely questionnaires. analysis used bivariate analysis used the Chi-Square Test.

**Results:** This shows that there is a relationship between education and response time with a value of  $p$ -value = .013, knowledge and response time with a value of  $p$ -value = .001, the length of work and response time with a value of  $p$ -value = .000, and training and response time with  $p$ -value = .006.

**Conclusion:** The education level of health workers is getting higher. Of course, knowledge and experience also increase, on average they are in their work longer so they are more productive and nurses have attended several pieces of training to improve their competencies.

**Keywords:** Characteristics, response time, nursing service.

## INTRODUCTION

One of the factors that influence the success of medical treatment for emergency patients is the speed of providing adequate assistance to emergency patients. Emergency patient care plays a very important role. As the front door of the hospital, the emergency department must be able to provide fast and precise assistance for patient safety. What is

meant by emergency services is a part of medical services needed by a patient immediately to save his life. The health Unit that organizes the emergency services is called by the name of the ER (Maatilu et al, 2014).

In emergency management, there is a philosophy, namely Time-Saving it's Live Saving. This means that all actions taken during an emergency must be truly effective and

efficient. This reminds us that patients can lose their lives in a matter of minutes. Stopping breathing for 2-3 minutes in humans can result in fatal death (Purba, 2015).

In emergency care, the most important thing to pay attention to is the speed of nurses in responding or acting on patients for the first time they enter the emergency room installation room. This speed is often referred to as the response time. The response time of the nurse is always a measure of the quality of service in a hospital or puskesmas.

The response time of health workers concluded that 67.5% of nurses were less responsive to their duties in the emergency field and felt that their burden was heavier than officers in other workrooms/units, 80.0% of nurses were less responsive to their duties because of the facilities and supporting facilities available at the medium category because there are still facilities and equipment whose quantity and quality should not be by standards, 77.5% of nurses are not responsive to emergencies due to the lack of quality service procedure standards. Response time or timeliness given to patients who come to the ER requires standards according to their competence and abilities so that they can guarantee an emergency treatment with a fast response time and proper handling (Naser, R. W. A. M., & Malara, R., 2015).

In a previous study conducted by Maatilu, V (2013) the response time of nurses in handling emergency patients at the IGD of Prof. dr. RD Kandou Manado, the results showed that most nurses had a response time of > 5 minutes as many as 17 (56.7%). Statistical analysis showed no association between education ( $p = 0.084$ ), knowledge ( $p = 1.000$ ) with response time nurses.

## METHODS

### *Study Design*

This research method used quantitative research with an analytic survey design with a *cross-sectional* approach aimed at Identification of the relationship between education, knowledge, length of work, and

training with response times from nurses in dealing with emergency patients.

### *Setting*

This research was conducted at the IGD of the Regional General Hospital (RSUD) I Lagaligo East Luwu in 2020.

### *Research Subject*

The population in this study were all nurses in the emergency room of RSUD I Lagaligo East Luwu. The sampling technique used in this study was to use a *total sampling* of 24 samples.

### *Instruments*

This research data is primary data which is directly obtained from respondents, data is collected using observation sheets to directly assess how the *response time* of nurses when handling emergency patients, as well as a questionnaire given to nurses as respondents, and the questionnaire is filled in by the respondent himself after receiving an explanation from researchers.

The instruments used in this research are questionnaires related to education level, years of service, training, and level of knowledge. Direct observations made by researchers. This questionnaire was not tested for validity and reliability because it had been tested by previous researchers on behalf of Halifa Rila so that researchers did not test again.

### *Data Analysis*

Tabulated data were analysed based on a measurement scale and research objectives using computerized software programs, and presented in tabular form. In this study, researchers used the following analysis:

Univariate Analysis: Descriptive analysis is used to determine the distribution and percentage of each variable. Analysis Bivariate: To see the relationships between independent and dependent variables using statistic Uji *Chi-Square*, with a significance value of  $p$ -value < .05 means that if  $p$ -value < .05.

*Ethical Consideration*

As for the research permit from the Investment and One-Stop Integrated Service Office of East Luwu Regency with the number 064/DPMTSP/VI/2020 and the research permit from the Lagaligo Regional General Hospital with the number 070/1242/RSUD-ILG.

**RESULTS**

The research was conducted in the emergency installation Wotu Hospital East Luwu Regency Year 2020, these results were obtained through the distribution of questionnaires to the respondents, a nurse who works in the emergency room of the room as many as 24 nurses.

*Univariate Analysis*

*Level of Education, Knowledge, Length of Working, Training, and Response Time*

Based on the research results, it can be seen that the characteristics of the respondents according to the level of education, knowledge, length of working, training, and response time can be seen in the table as follows:

**Table 1.** Distribution of Nurses by the Level of Education, Knowledge, Length of Working, Training, and Response Time in the Emergency Room of RSUD I Lagaligo East Luwu on 2020.

Characteristic of Nurses	Frequency (f)	Percentage (%)
<i>Educational Level</i>		
D III Nursing	2	8.3
S1 Nursing	3	12.5
Nurse Profession	19	79.2
Total	24	100.0
<i>Knowledge</i>		
Good	15	62.5
Less	9	37.5
Total	24	100.0
<i>Length of working</i>		
<5 years	6	25.0
>5 years	18	75.0
Total	24	100.0
<i>Training</i>		
Basic	11	45.8
Advanced	13	54.2
Total	24	100.0

Characteristic of Nurses	Frequency (f)	Percentage (%)
<i>Response Time</i>		
<5 minutes	19	79.2
>5 minutes	5	20.8
Total	24	100.0

Sources: Primary Data of Questionnaire, 2020.

The table above shows that the education level of vocational nurses is 2 (8, 3 %), S1 Nursing is 3 people (12.5%) and professional nurses are 19 (79.2%). According to Sitorus (2011) although Diploma III program graduates are also referred to as novice professional nurses who already have sufficient professional attitudes to master nursing knowledge and professional skills which include technical, intellectual, and interpersonal skills and are expected to be able to carry out professional nursing care based on care standards. nursing and nursing ethics. However, nursing education must be developed in higher education so that it can produce graduates who have professional attitudes, knowledge, and skills to carry out their roles and functions as nurses.

The table above shows that the respondents have a good level of knowledge, namely 15 (62, 5 %). And those who have less knowledge are 9 (37, 5 %). In providing emergency service assistance, officers must have 3 elements of readiness, including the readiness of knowledge and skills because they are closely related to direct rescue efforts for patients (Maatilu dkk, 2014).

The table above shows that the length of work of nurses in the ER is more than 5 years, namely as many as 18 people (75.0%). Meanwhile, those who were less than 5 years old were also 6 people (25.0%).

The table above shows that more nurses who have attended basic training are 11 (45.8%). Meanwhile, 13 (54.2%) attended advanced training.

The table above shows that most of the nurses in the ER have a *response time* of more than 5 minutes, with as many as 5 (20.8%) respondents. And those who have a response time <5 minutes are 19 (79.2%). This illustrates that the *response time* of nurses in the IGD

Wotu Hospital, East Luwu Regency is a little slow, which is more than 5 minutes. 2009 that the *response time* indicator in the ER must be ≤ 5 minutes. *Response time* (response time) of nurses in the management of emergency patients that is prolonged can reduce patient rescue efforts. Wilde (2009) has proven the importance of *response time* even in patients other than those with heart disease. The *response time* mechanism, in addition to determining the extent of damage to internal organs, can also reduce the burden of financing.

*Bivariate Analysis*

*Analysis of the Relationship between Nurse Education, Knowledge, Length of working, Training and Nurse Response Time in Emergency Patient Management*

The relationship between nurse education, Knowledge, Length of working, Training, and the *response time* of nurses in the emergency room of RSUD I Lagaligo Wotu, East Luwu Regency can be illustrated in the following table:

**Table 2.** The Relationship between Nurse Education Knowledge, Length of Working, Training, and Nurse Response Time in Handling Emergency Patients in the Emergency Room of RSUD I Lagaligo East Luwu on 2020.

Variables	Response Time				p-value
	> 5 Minutes		< 5 Minutes		
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	
<i>Education</i>					.013
D3 Nursing	2	8.33	0	0.00	
S1 Nursing	0	0.00	3	12.50	
Profession	3	12.50	16	66.67	
<i>Knowledge</i>					.001
Less	5	20.83	4	16.67	
Good	0	0.00	15	62.50	
<i>Length of Working</i>					.000
< 5 years	5	20.83	1	4.17	
> 5 years	0	0.00	18	75.00	
<i>Training</i>					.006
Basic	5	20.83	6	25.00	
Advance	0	0.00	13	54.17	

Sources: Primary Data of Questionnaire, 2020.

Based on the results of statistical tests, it showed a *p*-value of .013, which means that there is a significant relationship between nurse education and nurse response time in handling emergency patients. In assessing the skills of a person, in this case, the response time of the nurse, this is the motivation of the nurse to practice the work skills obtained from their education. Many factors influence job performance, according to Mangkunegara (2007) these factors include ability factors and

motivation factors. Motivation is the willingness or desire within a person who encourages him to act (Depkes RI, 2002).

Meanwhile, research conducted by Ali (2014) on factors related to the quality of nursing services states that there is a relationship between the level of nursing education and the quality of nursing services (Ali, 2014).

Based on the results of the chi-square analysis, there is a significant relationship

between the knowledge of nurses and the response time of nurses in handling emergency patients. This is by the statement of Sastrohadywiryo (2002) that, the longer a person works, the more cases they handle so that the experience increases, conversely the shorter the person works, the fewer cases they handle, the experience or length of work greatly affects knowledge.

The results of this study are in line with the research of Hasmoko (2008), regarding the analysis of factors that affect the clinical performance of nurses based on the application of the hospital clinical performance management development system. It shows that knowledge affects the clinical performance of nurses.

Based on the results of statistical tests, showed that there is a significant relationship between the length of work of nurses and the response time of nurses in handling emergency patients. The length of work for nurses in a hospital is synonymous with high productivity. This is supported by the theory of Robin (2007) which states that there are compelling reasons that people who have been in a job longer will be more productive and highly motivated.

Another study conducted by Faizin, A & Winarsih, (2008) on the Relationship between Education Level and Length of Work of Nurses and Nurses' Performance at Pandan Arang Hospital, Boyolali Regency, states that there is a relationship between the length of work and nurse performance.

Based on the results of statistical tests, it showed that there is a significant relationship between nurse training and nurse response time in handling emergency patients. This can happen because the skills that nurses get from training can be practiced properly. After all, they are supported by the existing infrastructure or environment. Based on research by Yoon et al, (2003) regarding the analysis of factors that affect the length of response time in the emergency department, it was found that there were internal and external factors that influenced the delay in handling emergency cases, including the availability of stretchers.

According to Rivai (2006), several factors need to be considered and play a role in training, including the accuracy and suitability of facilities.

The results obtained are in line with the results of research conducted by Lontoh (2013) on the effect of basic life support theory training on knowledge of cardiac pulmonary resuscitation, which states that there is a relationship between training and knowledge.

## DISCUSSION

### *Education Relationship with Response Time*

Based on the results of the study showed that the education level of vocational nurses was 2 (8.3%), S1 Nursing was 3 people (12.5%) and professional nurses were 19 (79.2%). This is not in line with the research of Ganida, AP (2018), whose statement is that the majority of nurses who serve in the IGD Deli Serdang Hospital have a D3 nursing education.

According to Sitorus (2011) although Diploma III program graduates are also referred to as novice professional nurses who already have sufficient professional attitudes to master nursing knowledge and professional skills which include technical, intellectual, and interpersonal skills and are expected to be able to carry out professional nursing care based on care standards, nursing and nursing ethics. However, nursing education must be developed in higher education so that it can produce graduates who have professional attitudes, knowledge, and skills to carry out their roles and functions as nurses.

The results of statistical tests showed that there is a significant relationship between nurse education and the response time of nurses in handling emergency patients. In assessing a person's skills, in this case, the nurse's response time, could be influenced by other factors. This situation depends on the nurse's motivation to practice the work skills that are obtained from their education. Many factors influence job performance, according to Mangkunegara (2007) these factors include ability factors and motivation factors. Motivation is the

willingness or desire within a person who encourages him to act (Depkes RI, 2002).

This is in line with the research of Maatilu et al. (2014) on factors related to the response time of nurses in handling emergency patients in the ER at Prof. dr RD Kandau Manado, who said there was no relationship between nurse education and nurse response time in handling emergency patients.

The results of the researcher's findings are in line with Gibson's (1997) theory which states that one's education has a high influence on employee performance, in this case, the nurse's response. According to Raimond (2014) the level of education of an organization's employees also greatly affects the quality of an organization, the higher the employee's education, the higher the quality that will be produced.

#### *Knowledge Relationship with Response Time*

Based on the results of the study showed that the respondents had a good level of knowledge, namely as many as 15 (62.5%). The results of the chi-square analysis showed that there was a significant relationship between the knowledge of nurses and the response time of nurses in handling emergency patients.

This is supported by the statement of Irmayanti et al (2007) that several factors influence a person's knowledge, namely education, media, information exposure, experience, and also the environment.

The results of this study are in line with the research of Hasmoko (2008), regarding the analysis of knowledge factors that affect the clinical performance of nurses based on the application of the hospital clinical performance management development system, showing that knowledge affects the clinical performance of nurses.

#### *Relationship of Nurse's Length of Employment with Response Time*

The results showed that the length of work of nurses in the emergency room was more than 5 years, as many as 18 people (75.0 %). According to Sastrohadiwiry (2002) the

longer a person works, the more cases they handle so that their experience increases, on the other hand, the shorter people work, the fewer cases they handle (Sastrohadiwiry, 2002).

Based on the results of statistical tests, shows that there is a significant relationship between the length of work of nurses and the response time of nurses in handling emergency patients. The length of work for nurses in a hospital is synonymous with high productivity. This is supported by the theory of Robin (2007) which states that there are compelling reasons that people who have been in a job longer will be more productive and highly motivated.

In line with the research conducted by Faizin and Winarsih (2008) concerning the Relationship between Nurse's Length of Work and Nurse Performance at Pandan Arang Hospital, Boyolali Regency, states that there is a relationship between the length of work and nurse performance.

This is in line with the theory developed by Gibson (1997) which states that members who have worked in an organization for a long time will get more experience so that their performance will be better. This theory is supported by research by Bogar (2013) which states that there is an effect of experience on nurse performance.

#### *Relationship between Nurse Training and Response Time*

The results showed that more nurses who had attended basic training were 11 (45.8%). Meanwhile, 13 (54.2%) attended advanced training. Based on interviews with 2 nurses that on average professional nurses have attended advanced training such as BTCLS, ATCLS, and leadership training, they are immediately applied in the emergency room installation.

Based on the results of statistical tests, shows that there is a significant relationship between nurse training and nurse *response time* in handling emergency patients. This happens because the ability obtained by nurses from direct training can be practiced properly. After all, it is supported by the existing infrastructure or environment.

The results obtained are in line with the results of research conducted by Lontoh (2013) on the effect of basic life support theory training on knowledge of cardiac pulmonary resuscitation, which states that there is a relationship between training and knowledge. According to Rivai (2006), several factors need to be considered and play a role in training, including the accuracy and suitability of facilities.

According to Darodjat (2015), the more competent an employee is, the higher the employee's performance. To improve skills, it is necessary to conduct training which is one of the factors needed to improve the quality of employees. With the training, it is hoped that the nurses can contribute to improving quality so that organizational goals are achieved.

## CONCLUSION

The education level of health workers is getting higher. Of course, knowledge and experience also increase, on average they are in their work longer so they are more productive and nurses have attended several pieces of training to improve their competencies.

## SUGGESTIONS

The researcher believes that the results of this study have great benefits, so it is hoped that readers or parties, in this case, RSUD I Lagaligo Wotu, East Luwu Regency, or the hospital in general, can improve the quality of service better.

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## DECLARATION OF CONFLICTING INTEREST

We strictly certify that there is no conflict of interest between the authors of this article.

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## AUTHOR CONTRIBUTION

**Andi Syamsul Bachri Jamal:** Conduct initial problem analysis, collect primary data, and analyze primary data, examine and agree on the contents of the article.

**Desak Nyoman Suartini:** Collecting secondary data, analyzing secondary data, and examining and agreeing on the content of the article.

**Anas Budi:** Collecting secondary data, analyzing secondary data, and reviewing and agreeing on the content of the article.

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