



## NURSING SKILL MANAGEMENT IN IMPLEMENTING TRIAGE IN THE EMERGENCY DEPARTEMENT

Ilhamsyah<sup>1</sup>, Ardian Adhiwijaya<sup>2\*</sup>, Arlena Dwi Suci Aprilia<sup>3</sup>

<sup>123</sup> Nursing Emergency Department Program, Faculty of Medicine and Health Sciences, UIN Alauddin Makassar, Indonesia

### ARTICLE INFORMATION

Received : March 8<sup>st</sup>, 2025

Revised : April 1<sup>st</sup>, 2025

Available online : May 31<sup>st</sup>, 2025

### CORRESPONDENCE

Phone : 085233xxxx

Email : [ilhamsyah.ners@uin-alauddin.ac.id](mailto:ilhamsyah.ners@uin-alauddin.ac.id)

### KEYWORDS

Knowledge, Skills, Nurses, Emergency Room, Triage

DOI 10.24252/hmsj.v6i2.57082

### ABSTRACT

**Background:** One of the services available in the emergency installation is triage. Triage is an action for patients who will enter the emergency department (ED) selected based on their emergency. Through the implementation of triage, patient satisfaction in the Hospital can be achieved and death and disability in emergency cases can be minimized, so it is very important for nurses to have knowledge and skills in implementing triage.

**Objective:** The purpose of this study was to determine the relationship between knowledge and nurse skills in implementing triage in the emergency room (ER) of Labuang Baji Hospital, Makassar.

**Methods:** The design of this study was quantitative research with a correlational analytical research type through a cross-sectional approach. The sample in this study was 30 nurses using the total sampling method. The instruments in this study were a questionnaire on knowledge about triage and the Triage Skill Questionnaire (TSQ), which were analyzed using the chi square test.

**Result:** The results of the univariate statistical test showed that ER nurse respondents had low knowledge of 86.7%, moderate knowledge of 10% and high knowledge of 3.3%. Meanwhile, nurses who had high skills were 83.3% and moderate skills were 16.7%. Meanwhile, the results of the bivariate statistical test showed that there was a relationship between knowledge and nurses' skills in implementing triage in the Emergency Room of Labuang Baji Hospital, Makassar with a significance value of  $p \text{ value} = 0.002 < 0.05$ .

**Conclusion:** This study found a significant relationship between nurses' knowledge and their skills in implementing triage in the Emergency Room of Labuang Baji Hospital, Makassar.

## INTRODUCTION

A hospital is an institution that provides comprehensive individual health services that provide inpatient, outpatient and emergency services (Gustia, 2018). Emergency Room (IGD) is one of the service units in a hospital that provides initial treatment (for patients who come directly to the hospital) or further treatment (for patients referred from other health care facilities), suffering from illness or injury that can threaten their survival and functions to receive, stabilize and manage patients who need immediate emergency treatment, both in everyday conditions and disasters (Afrina, Kusumawijaya, & Meilando, 2023).

World Health Organization (WHO) in 2017 there were several diseases that were considered emergencies and caused the most deaths in the world such as ischemic heart disease 7.4 million (13.2%), stroke 76.7 million (11.9%), chronic obstructive pulmonary disease 3.1 million (5.6%), lower respiratory infections 3.1 million (5.5%) and cancer 1.6 million (2.9%). Injury cases resulted in a death rate of 1.2 million patients.

The data shows that many patients with emergency cases who enter the hospital need immediate help to prevent disability and death (WHO, 2022). Currently, the trend of emergency room visits in the world has increased almost 2 times compared to the increase in population in the United States of America (USA) in 2019. The UK's National Health Service (NHS) reported that the

number of visits to the emergency room increased by 20%. Patient visits to the emergency room continue to increase every year, an increase of around 30% in all hospital emergency rooms in the world (Simandalahi, Morika, Sartiwi, & Dewi, 2019).

According to WHO, in 2019 the number of visits to the ER was 18,250,250 people (an increase of 13.1% from the total number of visits to the hospital), in 2020 the number of visits to the ER was 27,251,031 people (an increase of 18.1% from the total number of visits) and in 2021 the number of visits to the ER was 31,241,031 people (an increase of 21.1% from the total number of visits) (WHO, 2022).

In Indonesia, data on patient visits to the ER in 2020 were 8,597,000 (15.5% of the total visits) with 2,247 General Hospitals and 587 Special Hospitals out of a total of 2,834 hospitals, in 2021 there were 10,124,000 (18.2% of the total visits) and in 2022 there were 16,712,000 (28.2% of the total visits) Indonesia is one of the ASEAN countries with a high accumulation of patient visits to the ER (Ministry of Health of the Republic of Indonesia, 2022). This figure is an accumulation of 12% of ER visits originating from RSU, namely 1,033 units and 1,319 other hospital units (Ministry of Health of the Republic of Indonesia, 2018).

Meanwhile, the number of patient visits at the author's research location, namely the of Labuang Baji Hospital, Makassar, has increased every year. In 2022, there were 9.354 people, in 2023 there were 11.709 people and in 2024 until

July there were 7.403 people.

This significant number then became a major concern for emergency patient services. Seeing the increasing number of visits, emergency services were also needed. One of the services available in the emergency department is triage. Triage is an action for patients who will enter the ER based on their emergency (Permenkes RI, 2018).

The main purpose of triage is to reduce morbidity and mortality in all ER patients based on the severity of the injury, prioritizing the presence or absence of airway, breathing, and circulation disorders, considering facilities, human resources, and the probability of survival (Bazmul, Lantang, & Kambey, 2018). Through the implementation of triage, patient satisfaction in the hospital can be achieved and death and disability in emergency cases can be minimized (Ozhanli & Akyolcu, 2020)

So, it is very important for nurses to have skills in implementing triage. Triage skills are a form of action that can be seen in someone based on their ability to apply the knowledge they have (Oman & Koziol, 2012). Nurses' triage skills must be good so that triage procedures can be carried out optimally by nurses.

This is like in a study in Addis Abada, Ethiopia, as many as 52.9% of nurses were still at a moderate level of triage skills (Kerie, Tilahun, & Mandes, 2018). Another study conducted by (Khairina, Malini, & Huriani, 2018) found that as many as 70.37% of nurses

had moderate triage skills. Based on this study, many nurses still feel unskilled in acting because nurses are less confident in taking action. One of the factors that influences triage skills is knowledge. Lack of knowledge of nurses in implementing triage, especially in terms of patient waiting time limits, results in dangerous delays in providing timely emergency care which can increase the risk of death and disability (Aloyce, Leshabari, & Brysiewicz, 2014).

Based on a study conducted by (Sax et al., 2023) there was a case of a 46-year-old woman brought to the ER with an emergency level of level 2. However, the patient was not immediately given treatment, the patient continued to be in the waiting room for more than 5 hours in the waiting room, causing the patient to die. This is a result of delays for patients in emergency (Sudrajat, 2014).

Nurses must have a high level of knowledge about triage to have good triage skills. This is because the higher the level of knowledge of nurses, the better the implementation of triage procedures carried out by nurses (Sudrajat, 2014). So there needs to be further training and education for nurses to improve their skills. In addition to continuing education, it is important to explore further how to improve the level of nurse skills.

Improving knowledge and skills is done by continuing education and taking training courses. Because the speed and accuracy of assistance given to patients who come to the Emergency Installation requires standards

according to their competence and abilities so that they can guarantee emergency treatment with a fast response time and appropriate treatment (Gustia & Manurung, 2018).

The results of a previous research survey by (Rivai et al., 2019), researchers found that secondary data obtained from Labuang Baji Hospital can be seen that there are still several complaints regarding the quality of 8 services at Labuang Baji Hospital, one of which is that there is a delay in the service in the ER, this is because most health workers, especially nurses, are fresh graduates so that their experience and skills in serving patients are still low.

RSUD Labuang Baji is expected to be a model for other government hospitals in providing excellent service and is required to improve the quality of its services. The purpose of this study was to determine the relationship between knowledge and nurse skills in implementing triage in the Emergency Room of RSUD Labuang Baji Makassar.

## **METHODS**

This study is a quantitative study with a descriptive correlative type with a cross-sectional design. This study was conducted in the Emergency Room of Labuang Baji Hospital, Makassar in August 2024 with a study population of 30 people, while the sampling technique in this study used the total sampling technique so that the number of population and sample was the same, namely 30 people. Data collection was carried out in

two stages, namely primary data collection using a questionnaire and secondary data collection using data from the hospital regarding the number of nurses and the number of patient visits. Data analysis was carried out using the univariate method using frequency distribution, and the bivariate method using the chi-square test.

This study has received ethical approval from the Health Research Ethics Commission (KEPK) of the Faculty of Medicine and Health Sciences, UIN Alauddin Makassar with Number C.070 / KEPK / FKIK / VIII / 2024. Written consent was obtained from each participant, and the confidentiality of individual information was maintained and not reported in the research results.

## **RESULTS**

In this study consisted of 30 respondents with many respondents aged 36-45 years as many as 12 people (40%) while the least at the age of 17-25 years and >56 years each as many as 1 person (3.3%). For gender dominated by women as many as 19 people (63.3%) while men as many as 11 people (36.7%).

The last education was dominated by Professional education (Nursing) as many as 14 people (46.7%) while the least education was S1 as many as 5 people (16.7%). For the length of work in the dominated by those who worked >10 years as many as 14 people (46.7%) while the least in the length of work <1 year and 6-10 years each as many as 5 people (16.7%). And for the training that respondents have ever attended,

dominated by BTCLS as many as 19 people (63.3%) and the least in BTCLS + ENIL and BTCLS + Code Blue training each as many as 1 person (3.3%). More details can be seen in table 1 below:

**Tabel 1. Characteristics of Respondents at the Emergency Room**

| Respondent Characteristics             | n         | %            |
|--|-----------|--------------|
| <b>Age</b>                             |           |              |
| 17-25 Year                             | 1         | 3,3          |
| 26-35 Year                             | 10        | 33,3         |
| 36-45 Year                             | 12        | 40,0         |
| 46-55 Year                             | 6         | 20,0         |
| > 55 Year                              | 1         | 3,3          |
| <b>Gender</b>                          |           |              |
| Male                                   | 11        | 36,7         |
| Female                                 | 19        | 63,3         |
| <b>Education</b>                       |           |              |
| D3                                     | 11        | 36,7         |
| S1                                     | 5         | 16,7         |
| Profesi (Ners)                         | 14        | 46,6         |
| <b>length of service in IGD</b>        |           |              |
| <1 Year                                | 6         | 20,0         |
| 1-5 Year                               | 5         | 16,7         |
| 6-10 Year                              | 14        | 46,6         |
| >10 Year                               |           |              |
| <b>Training that has been attended</b> |           |              |
| Never                                  | 19        | 63,3         |
| BTCLS                                  | 1         | 3,3          |
| BTCLS+ENIL                             | 1         | 3,3          |
| BTCLS+ Code Blue                       |           |              |
| <b>Amount</b>                          | <b>30</b> | <b>100,0</b> |

*Source: Primary Data, 2024*

Nurses' knowledge about implementing triage in the Emergency Room of Labuang Baji Hospital, Makassar, most respondents had low knowledge, as many as 26 people (86.7%), moderate knowledge as many as 3 people (10%) and high knowledge as many

as 1 person (3.3%), more details can be seen in table 2 below:

**Tabel 2. Frequency Distribution Based on Nurses' Knowledge of Implementation of Triage in the Emergency Room**

| Knowledge     | n         | %            |
|---------------|-----------|--------------|
| High          | 1         | 3,3          |
| Medium        | 3         | 10,0         |
| Low           | 26        | 86,7         |
| <b>Amount</b> | <b>30</b> | <b>100,0</b> |

*Source: Primary Data, 2024*

The skills of nurses in implementing triage in the Emergency Room of Labuang Baji Hospital, Makassar. Most respondents have high skills, as many as 25 people (83.3%), while 5 people have moderate skills (16.7%). More details can be seen in table 3 below:

**Tabel 3 Frequency Distribution Based on Nurse Skills in Implementation of Triage in the Emergency Room**

| Skill Management | n         | %            |
|------------------|-----------|--------------|
| High             | 25        | 83,3         |
| Medium           | 5         | 16,7         |
| <b>Amount</b>    | <b>30</b> | <b>100,0</b> |

*Source: Primary Data, 2024*

Based on statistical tests using the chi square test at a 95% confidence level with a p value = 0.002. It can be said that the p value is smaller than alpha (0.05), so it can be concluded that there is a relationship between knowledge and nursing skills in implementing triage in the Emergency Room of Labuang Baji Hospital, Makassar, more details can be seen in table 4 below:

**Tabel 4 Relationship between Knowledge and Nurse Skills  
in the Implementation of Triage in the Emergency Room**

| Knowledge | Skill |      |        |      | Amount |       | Sig   | $\alpha$ |
|-----------|-------|------|--------|------|--------|-------|-------|----------|
|           | High  |      | Medium |      | n      | %     |       |          |
| High      | 1     | 3,3  | 0      | 0    | 1      | 3,3   | 0,002 | 0,05     |
| Medium    | 0     | 0    | 3      | 10,0 | 3      | 10,0  |       |          |
| Low       | 24    | 80,0 | 2      | 6,7  | 26     | 86,7  |       |          |
| Amount    | 25    | 83,3 | 5      | 16,7 | 30     | 100,0 |       |          |

*Source: Primary Data, 2024*

## DISCUSSION

The Emergency Room is the main line as a way for patients to enter the hospital and also a service that provides primary assistance to patients with emergency conditions. Emergency conditions require fast and direct medical action to save the patient's life and prevent disability. Patients in the Emergency Room will be treated according to the patient's condition (Tampubolon, J & Sudharmono, U, 2020).

In the Emergency Room, there are nurses who will sort patients according to their condition, this sorting is called triage. Triage is a concept of rapid and focused assessment in a way that allows the most efficient use of human resources, equipment and facilities with the aim of selecting or classifying all patients who need help and determining their treatment priorities (Kathleen et al., 2018).

The results of the study on nurses' knowledge about the implementation of triage in the Emergency Room of Labuang

Baji Hospital, Makassar, most respondents had low knowledge, namely 26 people (86.7%), then moderate knowledge was 3 people (10%) and at least high knowledge was 1 person (3.3%). This study is in line with (Duko, et al., 2019) where the results showed that as many as 51.5% of nurses in the emergency unit of the Special Hospital in Hawassa, Ethiopia had poor knowledge.

From the results above, it can be seen that many nurses in the Emergency Room of Labuang Baji Hospital, Makassar have low knowledge, low knowledge because their work experience is new, namely <1 year. In addition, knowledge can also be influenced by the education that has been taken by the nurse.

The higher the education, the better the knowledge will be and vice versa if education is low, the nurse is likely to have low knowledge. This is in accordance with the theory that factors that influence knowledge include work, experience, education, age, environment, socio-culture



and information (Foat, 2019).

Knowledge is the result of "knowing" and this occurs after a person senses a particular object (Swarjana, 2022). Knowledge of triage possessed by emergency room health workers will greatly assist officers in recognizing emergency cases. In addition to being useful for the quality of service, it can also prevent further death and disability. This is because nurses' knowledge of triage is one of the key elements when making triage decisions. If nurses do not have knowledge of triage, it will result in ineffective patient care and emergency efficiency will be questioned (AlMarzooq, 2020).

According to Shen & Lee (2020), the triage process carried out in the Emergency Room is one of the key steps before the patient consults with the doctor on duty in the Emergency Room. So, a nurse with a high level of knowledge is needed to be able to comply with every action taken in accordance with the Standard Operating Procedure (SOP) set by the Hospital (Ramdan & Rahman, 2018). This is in accordance with the opinion of (Fatmasari Wijayanti & Retno Titi Sari, 2023) that a person with high knowledge will be able to carry out all tasks effectively and efficiently, so that performance improves.

The results of the study on nurses' skills in implementing triage in the Emergency Room of Labuang Baji Hospital,

Makassar, showed that most respondents had high skills, as many as 25 people (83.3%), while 5 people (16.7%) had moderate skills. The results of this study are in line with the study (Rizky & Handayani, 2018) which describes the skills of nurses in implementing triage in the emergency room of Dr. Zainoel Abidin General Hospital, Banda Aceh, with a skilled category of 27 respondents (79.42%).

The results of the study above are not in accordance with the assessment elements related to triage regulated in the National Hospital Accreditation Standards (SNARS) edition 1, namely that staff must be trained to use triage criteria and also contradict the Regulation of the Minister of Health of the Republic of Indonesia No. 47 of 2018 which states that nurses working in the Emergency Room are at least at the Diploma 3 level who have emergency competencies. Emergency competencies can be obtained from education or training related to emergency services.

Skills refer to things that can be done, in a broader sense skills are interpreted as an ability to use reason, thoughts, ideas and creativity in doing, changing or making something more meaningful so that it produces a value from the results of the work (Acesta, 2019).

The results of the bivariate study used the chi square test at a 95% confidence level with a p value = 0.002. It can be said that the

p value is smaller than alpha (0.05), so it can be concluded that there is a relationship between knowledge and nursing skills in implementing triage in the Emergency Room of Labuang Baji Hospital, Makassar.

This study is in line with the study (Yunita, Tiara, Marlinda, Nurlia, & Sari, 2022) obtained the results of this study with the Chi-Square test with a p-value = 0.000 <  $\alpha$  (0.05). This means that there is a significant relationship between the level of nurses' knowledge and the implementation of triage in the Emergency Room of Pringsewu General Hospital in 2022.

The author assumes that the relationship between low knowledge and high skills in implementing triage in the Emergency Room of Labuang Baji Hospital, Makassar is caused by:

- a. Most of the knowledge is low because the respondents who have a D3 education level are 11 people and S1 are 5 people. Based on the results of the study by Ainiyah, Nur, et al. (2015) a person's level of education will affect their knowledge, the higher a person's education, the easier it is for them to receive information and the more knowledge they have. In addition to the low level of education, it is also because there are 9 respondents who have never attended training. Based on the results of the study (Gustia & Manurung, 2018) training can affect a person's triage

implementation actions because if a person attends a lot of training, the skills they have will be better.

- b. Most of the high skills are due to the length of work of respondents who worked >10 years as many as 12 people. This is in accordance with the results of research by Asmawi, et al. (2017) length of work can affect a person's triage implementation actions because if you apply knowledge as often as possible for a long period of time it will affect good skills in taking action. The longer a person's work period in working, the more knowledge and experience they have (Nurningsih in Novi Ervina, 2015).

The important role of triage nurses in the initial assessment during triage aims to ensure that patients are in the right place at the right time in the emergency department and are not neglected (Cetin et al., 2020). Clinical assessment of patients requires careful thinking, and both must be based on professionalism, knowledge and skills. The role of triage nurses requires very high clinical assessment skills, a relevant knowledge base to distinguish non-urgent complaints from life-threatening conditions in a busy work environment and very high stress levels (Hwang & Shin, 2023).

In theory, factors that influence the implementation of triage such as



knowledge factors, attitudes and skills of emergency health workers are very much needed in clinical decision making so that there are no errors in sorting during triage so that patient care can be more optimal and focused (Oman, 2018).

## CONCLUSION

Nurses' knowledge in implementing triage in the Emergency Room of Labuang Baji Hospital, Makassar is categorized as low while nurses' skills are categorized as high. There is a relationship between knowledge and nurses' skills in implementing triage in the Emergency Room of Labuang Baji Hospital, Makassar. It is expected that the Hospital will provide opportunities for nurses to get continuing education and hold routine training in order to improve their knowledge and skills in handling emergencies and for nurses to be able to increase their knowledge by searching the mass media, people around them and if necessary, attending training and seminars related to emergencies in order to improve their knowledge and skills.

## THANK YOU NOTE

The author would like to thank all the lecturers of the Nursing Undergraduate Study Program, FKIK, Alauddin State Islamic University, Makassar for the knowledge and motivation given to the author, the respondents who have been able

to cooperate in this study and the supervising lecturers who have provided a lot of direction to the author, as well as both parents who are already in heaven, siblings and extended family who have provided a lot of support to the author.

## REFERENCE

- Acesta, A. 2019. Kecerdasan Kinestetik Dan Interpersonal Serta Pengembangannya. Surabaya: Penerbit Media Sahabat Cendekia Pondok Maritim Indah.
- Afrina, L., Kusumawijaya, H., & Meilando, R. (2023). Factors Related to Nurse Response Time in Traffic Accident Cases in the Emergency Room. *Journal of Professional Nurse Research*, 5(2), 645656. <https://doi.org/10.37287/jppp.v5i2.1524>
- Ainiyah, Nur., et al. (2015). The Factors Associated with The Triage Implementation in Emergency Department. *Jurnal Ners*, 10(1), 147-157. <https://doi.org/10.20473/jn.v10i1.2107>
- AlMarzooq, A. M. (2020). Emergency Department Nurses' Knowledge Regarding Triage. *International Journal of Nursing*, 7(2), 29-44. <https://doi.org/DOI:10.15640/ijn.v7n2a5>
- Aloyce, R., Leshabari, S., & Brysiewicz, P. (2014). Assessment of knowledge and skill of triage amongst nurses working in the emergency centres in Dar es Salaam, Tanzania. *African Journal of Emergency Medicine*, 4(1), 14-18. <https://doi.org/DOI:10.1016/j.afjem.2013.04.009>

- Barners, D., & Chang, R. (2020). Some patients can't wait improving timeliness of emergency department care. PSNet [internet]. Rockville (MD): Agency for Healthcare Research and Quality, US Department of Health and Human Services. <https://psnet.ahrq.gov/web-mm/some-patients-cant-wait>
- Bazmul, M. F., Lantang, E. Y., & Kambey, B. I. (2018). Patient Emergency Profile Based on Start Triage Scale in Emergency Installation of Prof. Dr. Soetomo General Hospital. Dr R. D. Kandou Manado Period January 2018 to July 2018. *Journal of e-Clinic (eCI)*, 7(1), 46-50. <https://doi.org/10.35790/ecl.v7i1.23538>
- Cetin, S. B., Eray, O., Cebeci, F., Coskun, M., & Gozkaya, M. (2020). Factors Affecting the Accuracy of Nurse Triage in Tertiary Care Emergency Departments. *Turkish Journal of Emergency Medicine*, 20(4), 163–167. <https://doi.org/10.4103/2452-2473.297462>
- Duko, B., Geja, E., Oltaye, Z., Belayneh, F., Kedir, A., & Gerbire, M. (2019). Triage knowledge and skills among nurses in emergency unit of specialized hospital in Hawasa, Ethiopia: cross sectional study. *BioMed Central Research Notes*, 12(1). <https://doi.org/10.1186/s13104-019-4062-1>
- Fatmasari Wijayanti, & Retno Titi Sari. (2023). The Influence Of Competency On Employee Performance: (A Literature Review). *International Journal of Accounting, Management, Economics and Social Sciences (IJAMESC)*, 1(6), 920–931. <https://doi.org/10.61990/ijamesc.v1i6.118>
- Foat, M. I. (2019). The Relationship between Knowledge of Dental Caries and Motivation to Perform Dental Caries Filling (in Patients at the Dental Polyclinic of the Soe City Health Center). Health Polytechnic of the Ministry of Health, Yogyakarta.
- Gustia, M., & Manurung, M. (2018). The Relationship between Accuracy of Triage Assessment and the Level of Success in Handling Head Injury Patients at the HKBP Balige Hospital, Toba Samosir Regency. *Jumantik (Scientific Journal of Health Research)*, 3(2), 98-114.
- Hwang, S., & Shin, S. (2023). Factors Affecting Triage Competence among Emergency Room Nurses: A cross-sectional study. *Journal of Clinical Nursing*, 32(13–14), 3589–3598. <https://doi.org/10.1111/jocn.16441>
- Kathleen, et al. (2018) *Emergency Nursing Study Guide*. Jakarta: Egc.
- Ministry of Health of the Republic of Indonesia. (2022). Data and Information on the Indonesian Health Profile. Jakarta.
- Ministry of Health of the Republic of Indonesia. (2018). Results of the 2018 Basic Health Research (Riskesdas). Jakarta: Health Research and Development Agency of the Ministry of the Republic of Indonesia.
- Kerie, S., Tilahun, A., & Mandes, A. (2018). *BioMed Central Research Notes*, 11, 658.
- Khairina, I., Malini, H., & Huriani, E. (2018). Knowledge and skills of nurses in triage clinical decision making. *LINK Journal*, 16(1), 1-5. <https://ejournal.poltekkesmg.ac.id/ojs/index.php/link/article/view/5449>

- Oman. (2018). Emergency Nursing. Jakarta: EGC.
- Oman, K., & Koziol, J. (2012). Emergency Study Guide. Jakarta: EGC.
- Ozhanli, Y., & Akyolcu, N. (2020). Satisfaction of Patients with Triage and Nursing Practice in Emergency Departments. *Florence Nightingale Journal of Nursing*, 28(1), 49–60. <https://doi.org/10.5152/FNJN.2020.18041>
- Permenkes RI. (2018). Regulation of the Minister of Health of the Republic of Indonesia Number 47 of 2018 Concerning Emergency Services. Jakarta.
- Ramdan, I. M., & Rahman, A. (2018). Analysis of Occupational Health and Safety (K3) Risks in Nurses. *Padjadjaran Nursing Journal*, 5(3). <https://doi.org/10.24198/jkp.v5i3.645>
- Rizky, T., & Handayani, T. N. (2018). Knowledge and Skills of Nurses in Carrying Out Triage. *JIM FKep*, IV (1), 26-32.
- Sax, D. R., Warton, E. M., Mark, D. G., Vinson, D. R., Kene, M. V., Ballard, D. W., Vitale, T. J., McGaughey, K. R., Beardsley, A., Pines, J. M., Reed, M. E., Rauchwerger, A. S., & Zhang, J. Y. (2023). Evaluation of Version 4 of the Emergency Severity Index in US Emergency Departments for the Rate of Mistriage. *JAMA Network Open*, 6(3), e233404. <https://doi.org/10.1001/>
- Shen, Y., & Lee, L. H. (2020). Improving the Wait Time to Triase at the Emergency Department. *BMJ Open Quality*, 9(1). <https://doi.org/10.1136/bmjopen-2019-000708>
- Simandalahi, Tiurmaida, Morika, Honesty Diana, Sartiwi, Weni, & Dewi, Ratna Indah Sari. (2019). Relationship between Response Time and Patient Satisfaction Level in the Emergency Room of the Health Center. *Mesencephalon Health Journal*, 5(2).
- Sudrajat, A. (2014). Relationship between nurses' knowledge and experience with triage skills in the Emergency Room of the RSCM. Jakarta: Poltekkes Kemenkes Jakarta III. <https://doi.org/10.14710/interaksi.v.%i.166-174>
- Swarjana, I. K. (2022). Konsep Pengetahuan, Sikap, Perilaku, Persepsi, Stress, Kecemasan, Nyeri, Dukungan Sosial, Kepatuhan, Motivasi, Kepuasan, Pandemi Covid-19, Akses Layanan Kesehatan. CV Andi Offset.
- Tampubolon, J, and Sudharmono, U. (2020). Patient and Family Satisfaction Level towards Emergency Room Services at the Bandung Adventist Hospital. *Scholastic Nursing Journal*. 6(2): 123-134.
- WHO. (2022). World health statistics 2022 (Monitoring health of the SDGs).
- Yunita, D., Tiara, Marlinda, Nurlia, & Sari, R. (2022). The Relationship Between Nurses' Knowledge Level and Triage Implementation in the Emergency Room (IGD) of Pringsewu Regional Hospital. *Journal of Health System Research*. 35-46