



The Relationship Between The Level of Knowledge of Nurses and Response Time in The Emergency Installation at Porsea Regional General Hospital Toba Regency

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ABSTRACT

Emergency Room is the main access to get treatment at the hospital, has a very important role in treating patients with various levels of emergency. Response Time is the speed in handling patients, calculated from the time the patient arrives until the treatment is carried out. In carrying out special health services in the emergency department, one of the indicators that must be achieved is handling the right response time to achieve the expected results. The standard response for emergency patients must be served no later than 5 (five) minutes after arriving at the emergency department. This research method is a cross sectional study to determine the relationship between nurses' knowledge and response time in the Emergency Installation of the Porsea Regional Hospital, Toba Regency, which was carried out in February 2022 on 17 emergency room nurses at Porsea Regional General Hospital using a total sampling technique. The results of the study found that there was a relationship between Nurse Knowledge Levels and Response Time in the Emergency Room using the Chi-Square test, p value = 0.007, p value < (0.05). So it can be concluded H_a , which means that there is a relationship between the level of knowledge of nurses and response time in the ER at the Porsea Regional Hospital in 2022. It is expected that nurses will continue to improve their skills/insights and knowledge by optimizing in providing services in the form of comprehensive nursing actions.

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1. Introduction

The emergency department (IGD) is one of the service units in hospitals that provides initial treatment for patients who come directly to the hospital/continuation (for patients who are referred from other health care facilities), suffer from illness or injury that can threaten their survival (Permenkes RI No. 47 of 2017). An emergency is an event that suddenly demands

immediate action which may be due to epidemics, natural events, technological disasters, disputes or human-caused events and urgently needs the help of health workers immediately to reduce further disability and save the patient's life (Amelia Kurniati, Yanny, Maria Theresia, 2018).

The American Hospital Association (AHA, 2015) states that people rely on emergency rooms to seek medical care and treatment in life-threatening conditions or not. The emergency department is the main access in obtaining treatment at the hospital, has a very important role in dealing with patients with various levels of emergency (Decree of the Minister of Health of the Republic of Indonesia, 2009). Patients who experience an emergency must immediately get appropriate, careful, and fast treatment. Improper handling will cause death or disability in patients. The most common causes of death in the ED include heart disease, trauma, cerebrovascular attack (CVA), and sepsis. The College Of Emergency Medicine (2012), revealed that the lack of performance of nurses in providing nursing care, high work stress, imbalance between the number of patients and the availability of nurses, room layout, lack of bed capacity, heavy workload, death, the number of health workers from multidisciplinary sciences, and the need for total care for patients with critical conditions are some of the common problems that cause overcrowded conditions in the ER and the nurse's response time in treating patients is slow (Wijaya, 2010). Response time of nurses in the ER will have a negative impact on patient safety, patient doubts such as comfort and satisfaction, poor service access for hospitals and poor quality of nurses in providing services to patients (Afleck et al., (2013).

Response Time is the speed in handling patients, calculated from the time the patient arrives until the treatment is carried out (Suhartati et al. 2011). In carrying out special health services in the emergency department, one of the indicators that must be achieved is handling the right response time to achieve the expected results. The standard response time is stated in the Decree of the Minister of Health of the Republic of Indonesia No. 856/Menkes/SK/IX/2009 concerning Hospital Emergency Room Installation standards which states that emergency patients must be served no later than 5 (five) minutes after arriving in the emergency department, as well as in the Decree of the Minister of Health No. 129/Menkes/SK/II/2008 concerning Minimum Service Standards for Hospitals, it is stated that the service response time in the ER is 5 (five) minutes served after the patient's arrival. According to the World Health Organization (WHO) there are several diseases that are considered an emergency and the largest contributor to death in the world, including 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%), cases of injury or accident give the death rate reaching 1.2 million. From some of these cases, it is necessary to improve health services according to standards including the level of knowledge and skills of health workers who are in the scope of the Emergency Installation. Knowledge, attitudes and skills of emergency room health workers are needed in making

clinical decisions so that there are no mistakes in sorting during triage so that patient management can be more optimal and directed (Ludwig. G. 2004).

The results of the research by Martanti, R., Nofiyanto, M., & Prasojo, RAJ (2015), that the factors related to the timeliness of response to case handling in surgical and non-surgical EDs are the availability of stretchers, availability of triage officers, staff placement patterns, the level of patient characteristics, factors of knowledge, skills and experience of health workers, who handle emergency events. There is a relationship between the level of knowledge of ER health workers on triage actions based on priorities and there is a relationship between the attitudes of ER health workers towards triage actions based on priorities so that knowledge about response time for health workers is very important to provide meaningful nursing care. The results of research by Martanti, R., Nofiyanto, M., & Prasojo, R. A. J. (2015), show that the better the level of knowledge, the more skilled in triage implementation. The results of research conducted by Maatilu 2014, the response time in handling emergency patients in the ER, showed that the response time of nurses in handling emergency cases was on average slow (> 5 minutes). While the research conducted by Noor (2009), the response time in handling emergency room patients obtained a response time of 7.4 minutes.

The results of Ahmad's research (2012), there are several factors related to the response time of nurses in carrying out their duties, these factors are internal factors including knowledge, education, length of work, motivation, age, and gender. External factors include compensation and infrastructure. In fact, there are many delays in the response time of nurses, namely the response time of more than 5 minutes, this shows that the ER standards have not been fulfilled according to the 2019 Minister of Health decision. Delays in handling patients in the Emergency Room can result in disability or death which according to Maatilu (2014) in their research proves that the prolonged nurse response time in handling emergency patients can reduce patient rescue efforts and the occurrence of worsening of the patient's condition. Nurses in the emergency department are required to always carry out their roles in various situations and conditions which include professional patient rescue actions, especially handling emergency patients, this cannot be separated from the importance of the level of knowledge of nurses in handling cases of emergency patients so the authors are interested in conducting research on the relationship between knowledge level of nurses with response time in the Emergency Installation of Porsea Regional General Hospital, Toba Regency.

Based on an initial survey conducted at the emergency department of the Porsea Regional General Hospital, it was found that there were 834 patient visits through the ER in 2019, while in 2020 in 2020-2021 there was an increase in patient visits in the ER as many as 300-500 patients. This patient data includes repeat patients and new patients where patients with different complaints. From the visit data at the Porsea Regional Hospital, the average response time in the last 3 months was 7 to 10 minutes which was categorized as slow because ≥ 5 minutes, this was due to many factors, one of which was the increasing number of patient visits entering the ER at the Porsea Regional General Hospital. limited number of equipment and number of nurses.

Based on the literature above, the authors are interested in conducting research on the relationship between the level of knowledge of nurses and response time in the Emergency Installation of Porsea Regional Hospital, Toba Regency.

2. Research Methods

The design of this research is a cross sectional study to determine the relationship between nurses' knowledge and response time in the Emergency Installation of Porsea Regional General Hospital, Toba Regency, which was conducted in February 2022 on 17 emergency room nurses at Porsea Regional General Hospital using total sampling technique.

3. Result And Discussion

3.1 Result

Table 1
Frequency Distribution of Respondents Based on Demographic Data at Sigumpar Health Center 2022

No.	Karakteristik Responden	Frekuensi (F)	Persentase (%)
1	Umur		
	18-25 tahun	6	35.31
	26-35 tahun	8	47.05
	36-45 tahun	3	17.64
	Total	17	100.0
2	Jenis Kelamin		
	Laki-laki	4	23.52
	Perempuan	13	76.48
	Total	17	100.0
3	Pendidikan		
	D3 Perawat	12	70.59
	S.Kep	2	11.76
	S1 (ners)	3	17.65
	Total	17	100.0
4	Lama Kerja		
	1-5 tahun	3	17.64
	6-10 tahun	8	47.05
	>10 tahun	6	35.31
	Total	17	100.0
5	Status		
	Honor	10	58.82
	PNS	7	41.18
	Total	17	100.0
4	Agama		
	Islam	3	17.65
	Protestan	14	82.35
	Total	17	100.0

Characteristics of nurses based on nurse demographics, it was found that the majority of nurses were in the age range of 18-26-35 years by 47.05%, with the majority being Female

76.48%, D3 Nurse education at 70.59%, with the majority of working years 6-10 years 47.05%, status Honor employees are 58.82% and the majority are Christians at 82.35%. The frequency distribution of respondents can be seen in table 1.

Table 2
Distribution of Frequency and Percentage of Nurses' knowledge about Response Time in the IGD of Porsea Regional General Hospital 2021

Pengetahuan	Frekuensi	%
Kurang	5	29.41
Baik	12	70.59
Total	17	100.0

Table 2 describes Nurses' knowledge of Response Time in the emergency room of the Porsea Regional General Hospital in 2022 was mostly good as many as 12 people (70.59%).

Table 3
Distribution of Frequency and Percentage based on the response time of respondents in the IGD of the Porsea Regional General Hospital 2022

Respon time	Frekuensi	%
Cepat	11	64.70
Lambat	16	35.30
Total	17	100.0

Table 4
Relationship of Nurse Knowledge with Response Time in the Emergency Installation of Porsea Regional General Hospital, Toba Regency

Response time		Total	P
Pengetahuan Perawat	Cepat	Lambat	P
			P: 0.007

Based on the research that has been done about the relationship between the level of knowledge of nurses and response time in the emergency department using the Chi-Square test, the p value = 0.007 obtained p value < (0.05).

3.2 Discussion

Based on the research that has been done about the relationship between the level of knowledge of nurses and response time in the emergency department using the Chi-Square test, the p value = 0.007 obtained p value < (0.05). So it can be concluded H_a , which means that there is a relationship between the level of knowledge of nurses and the response time in the IGD of the Porsea Regional Hospital in 2022.

From the data obtained, the level of good knowledge that has a fast response time is 11 people (64.70%) while good knowledge has a slow response time as many as 6 people (35.30%). Lack of knowledge with fast response time is 3 people (9.7%). Response time is the speed in handling clients (Akrian N Tumbuan et al, 2015).

Response time is influenced by several things including the number of personnel, facilities and infrastructure, knowledge or experience of nurses (Eko widodo 2015, 25). The nurse's response time is said to be on time if it does not exceed the predetermined average time.

This is because the discussion about knowledge varies widely depending on the factors that influence it. Based on the results of the study, it was found that nurses' knowledge of response time was good, according to the researcher's assumption, knowledge of response time was good because nurses learned from various seminars or information media that had developed at this time. This is supported by the statement of Irmayanti et al (2007) that there are several factors that influence a person's knowledge, namely education, media, exposure to information, experience and also the environment.

This is in line with the opinion of Widiasih (2008) who said that in providing emergency service assistance, officers must have elements of readiness, including the readiness of knowledge and skills because they are closely related to direct rescue efforts for patients. The results showed that the majority of D3 Nurse education was 70.59%, with the majority of working years 6-10 years 47.05%, although the results showed the majority of D3 Program graduates but nurses already had sufficient professional attitudes to master nursing science and professional skills which included technical skills, intellectual, and interpersonal and is expected to be able to carry out professional nursing care based on nursing care standards 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 so that they can carry out their roles and functions as professional nurses (Sitorus, 2011).

The results of data analysis on 17 respondents obtained that nurses' knowledge of Response Time in the IGD of the Porsea Regional Hospital in 2022 was good, the majority were 12 people (70.59%), it could be concluded that most nurses had a good level of knowledge because in providing emergency service assistance, officers must have elements of readiness of knowledge and skills Because it is closely related to direct rescue efforts to patients. Nurses play an important role in response time in handling emergency rooms in the ER, because one of the roles of nurses is as a provider of nursing care. Response time according to emergency priority. stated that the response time according to the priority of the emergency, namely Emergency is less than 5 minutes. Urgent has more tolerance and as much as possible must be handled immediately. This statement is in accordance with the statement of Dewi Kartikawati N. (2011).

The triage classification system identifies the types of patients who require different levels of care. Priority is based on knowledge, available data, and the most recent existing situation. The standard response time is stated in the Decree of the Minister of Health of the Republic of Indonesia No. 856/Menkes/SK/IX/2009 concerning Hospital Emergency Room Installation standards which states that emergency patients must be served no later than 5 (five) minutes after arriving in the emergency department, as well as in the Decree of the Minister of Health No. 129/Menkes/SK/II/2008 concerning Minimum Service Standards for Hospitals, it is stated that the service response time in the ER is 5 (five) minutes served after the patient's arrival. Based on the results of data analysis on 17 respondents, it was found that the majority of nurses in the emergency room at the Porsea 2022 Regional General Hospital were 11 people (64.70%) fast, so it can be concluded that most of the emergency room nurses still have a fast response time, which is less than 5 minutes. The prolonged response time (response time) of nurses in handling emergency patients can reduce patient rescue efforts. Maatilu, et al (2014).

Based on the research that has been done about the relationship between the level of knowledge of nurses and Response Time in the Emergency Room using the Chi-Square test, p value = 0.007 obtained p value < (0.05). So it can be concluded H_a , which means that there is a relationship between the level of knowledge of nurses and the response time in the ER at the

Porsea Regional General Hospital in 2022. The results of this study are not in line with the research of Amelia, et al (2013). The results of the analysis based on statistical tests on the relationship between nurses' knowledge and response time, it can be concluded that there is no relationship between nurses' knowledge and response time in handling emergency room patients. The results of the chi square test showed that there was no relationship between the level of knowledge of nurses and the response time of nurses in emergency management. Response time is very important to provide meaningful nursing care.

Based on the work experience of the majority of nurses 6-10 years of 31.9%, Robby (2009) said past experiences of illness, both positive and negative, can affect the development of patient skills.

According to the researcher's assumptions, this can be seen because in assessing a person's level of knowledge or skills, namely about nurse response time, it can be seen from the level of education and experience of nurses with D3 Nursing graduates and 6-10 years of experience. There are several factors that can support nurses' knowledge, which can be obtained from training related to response time, can also be obtained through work experience gained while working in the ER. Experience can be experienced by someone directly, from that experience someone can find out new things while working so that they can increase knowledge in doing the job. This is supported by the statement of Irmayanti (2007) that there are several factors that influence a person's knowledge, namely education, media, exposure to information, experience, and also the environment.

Therefore, in addition to the knowledge that nurses must still have, the accuracy of the nurse's Response Time is also very influential on the course of services at the Porsea Regional General Hospital because it is directly related to patient safety, the faster the service, the lower the risk of patient disability or death, so nurses those who work in the emergency room must further improve the response time supported by the available facilities.

However, as a nurse, it is necessary to know that from the various problems faced by nurses, they must remain committed to being professional nurses who can improve the quality of nursing care services in accordance with nursing ethics.

4. Conclusion

The results of the research on the Response Time of nurses in the emergency room at the Porsea Regional General Hospital in 2022 were mostly 11 people (64.70%) and there was a relationship between the Knowledge Level of Nurses and Response Time in the Emergency Installation of the Porsea Regional General Hospital using the Chi-Square test, the p value = 0.007, the p value obtained < (0.05).

References

- Afif Nurul Hidayati, Muhammad Ilham Aldika Akbar, Alfian Nur Rosyid. (2018). Gawat Darurat Medis dan Bedah. Surabaya: Airlangga University Press.
- Akhrian. 2015. Hubungan Response Time Perawat Dengan Tingkat Kecemasan Pasien Kategori Triase Kuning Di IGD RSU GMIM Kalooran Amurang. Jurnal.
- American Heart Association (AHA) 2015, 'Guidelines 2015 CPR & ECC', Circulation, Vol.132, no.5. [https://doi.org/10.1016/S0210-5691\(06\)74511-9](https://doi.org/10.1016/S0210-5691(06)74511-9)
- Aryono, D.2016. Kegawatdaruratan dan Bencana. Jakarta: Rayyana Komunikasi Indo.
- Depkes RI, 2009 Standar Tenaga Keperawatan Di Rumah Sakit, Direktorat Pelayanan Keperawatan Direktorat Jenderal Pelayanan Medik.
- Dewi. 2011. Konsep Dasar Triage Instalasi Gawat Darurat Konsep Dasar Keperawatan Gawat. Skripsi

- Donsu, Jenita DT. (2017). Psikologi Keperawatan. Yogyakarta : Pustaka Baru Press
- Kartikawati, D. N, (2013). Buku ajar Dasar-Dasar Keperawatan Gawat Darurat, Salemba Medika: Jakarta
- Keputusan Menteri Kesehatan Republik Indonesia (2009). *Standar Instalasi Gawat Darurat (IGD) Rumah Sakit*. Jakarta : Menteri Kesehatan Republik Indonesia.
- Laoh, Joice M dkk. (2014) . Gambaran Pengetahuan Perawat Pelaksana dalam Penanganan Pasien Gawat Darurat di Ruang IGDM BLU RSUP Prof. Dr. R.Kandou Manado.
- Ludwig. G. 2004. EMS Response Time Standards. <http://www.emsworld.com/article/10324786/ems-response-time-standards>
- Permenkes RI. 2017. Peraturan Menteri Kesehatan Republik Indonesia Nomor 40 Tahun 2017 Tentang Pengembangan Jenjang Karir Profesional Perawat Klinis.
- Maatilu, V. (2014). Faktor-Faktor Yang Berhubungan Dengan Response Time Perawat pada penanganan Pasien Gawat Darurat Di IGD RSUP RSUP Prof. Dr. R. Kandou Manado.
- Mahrur, Arif dkk. (2016). Faktor-Faktor yang Mempengaruhi Lamanya Waktu Tanggap dalam Pelayanan Gawat Darurat di Instalasi Gawat Darurat (RSUD dr. Soedirman Kebumen.
- Martanti, R., Nofiyanto, M., & Prasojo, R. A. J. 2015. Hubungan tingkat pengetahuan dengan keterampilan petugas dalam pelaksanaan triage di instalasi gawat darurat rsud wates, 4(2), 69–76. <https://doi.org/https://doi.org/10.30989/mik.v4i2.68>
- Noor. (2009). Faktor-Faktor Yang Mempengaruhi Response Time Pada Penanganan Pasien Instalasi Gawat Darurat RSUP Persahabatan.
- Notoadmojo,(2014). *Pendidikan dan perilaku*. Jakarta:Rineka Cipta.
- Nursalam. (2012). *Manajemen Keprawatan: Aplikasi dalam Praktik Keperawatan Profesional*. Jakarta: Salemba Medika.
- Oman. K. (2008). *Panduan belajar emergency ECG :Jakarta*.
- Sabriyati, W. O. (2012) Faktor-Faktor yang Berhubungan Dengan Ketepatan Waktu Tanggap Penanganan Kasus Pada Response Time Di Instalasi Gawat Darurat Bedah dan Non Bedah RSUP Dr. Wahidin Sudirohusodo.
- Septian 2016. (2016). Hubungan response time perawat dengan tingkat kecemasan pasien kategori triage kuning di Instalasi gawat darurat di RSD Dr. Soedirman Kebumen.
- Setyawan. H. (2015) Gambaran Pengetahuan Peran Perawat Dalam Ketepatan Waktu Tanggap Penanganan Kasus Gawat darurat Di Instalasi Gawat Darurat Rumas Sakit Umum Daerah Karanganyar, Surakarta : STIKes Kusuma Husada.
- Siswa Nurhasim 2015. Pengetahuan Perawat Tentang Response Time Dalam Penanganan Penanganan Gawat Darurat Di Ruang Triage Karanganyar. Skripsi.
- Soekanto S, Herkutanto. 2007. *Aspek Medikolegal Pelayanan Gawat Darurat*. Vol. 57. Jakarta: CV Remadja Karya.
- Sutawijaya, Bagus Risang. 2009. *Gawat darurat Panduan Kesehatan Wajib di Rumah Anda*. Yogyakarta : Aulia Publishing
- Surtiningsih.(2015). Hubungan Response Time Perawat Dengan Kepuasan Penanganan Kewatdaruratan Pada Pasien Kecelakaan Di IGD RSD Balung.
- Taufik,(2017). Faktor-faktor yang berhubungan dengan triage pada penanganan gawat darurat di IGD Rs. Islam Faisal Makassar dan RS. Bhayangkara Mappaodang Makassar. *S1 Keperawatan Stikes Panakkukang Makassar*.
- Wijaya, S. 2010. *Konsep Keperawatan Gawat Darurat*, PSIK Fakultas Kedokteran Universitas Udayana, Denpasar