



**THE EFFECT OF SELF EFFICACY AND ATTITUDES ON NURSES' PREPAREDNESS IN FACING EARTHQUAKE DISASTERS**

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**ABSTRACT**

Indonesia is classified as a country with a high level of natural disaster vulnerability, including volcanic eruptions, tsunamis, banjir, landslides, earthquakes and so on. One important step in reducing the risk of natural disasters is to improve preparedness for individuals and health workers. Preparedness can be influenced by various factors including self efficacy and attitude. The purpose of this study was to determine the effect of self efficacy and attitude on nurses' preparedness in facing earthquake disasters in the Coastal Region of Sukabumi Regency. Methods: Correlational research with cross sectional approach. The population and sample in this study were all nurses in the Coastal Region of Sukabumi Regency as many as 160 people, using total sampling technique. Data collection techniques using questionnaires. The validity test results on all instruments for each variable have a p value < 0.05 and are declared valid. The results of the instrument reliability test for each variable > 0.6 so that it is declared to have a high reliability value. Data analysis included univariate analysis using mean and standard deviation, bivariate analysis using simple linear regression and multivariate analysis using multiple linear regression. Results: The results showed that there was a significant effect of self efficacy (p-value 0.017) and attitude (p-value 0.000) on nurse preparedness. There is a simultaneous influence of self efficacy and attitude towards nurse preparedness which is quite strong (R Square 0.274). Conclusion: There is a significant effect of self efficacy and attitude on nurse preparedness.

Keywords: attitude; nurse; preparedness; self efficacy

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**INTRODUCTION**

Indonesia is an archipelago located at the meeting zone of several world tectonic plates, namely the Euro-Asian plate in the north, the Indo-Australian plate in the south, and the Philippine plate and Pacific plate in the east (Dahlan & Suwarno, 2022). Indonesia is classified as a country with a high level of natural disaster vulnerability, including volcanic eruptions, tsunamis, banjir, landslides, earthquakes and so on. Disasters are events that can occur anywhere, anytime, and happen to anyone, and often come suddenly. Disasters directly have a negative impact on human life, the environment, as well as physical, biological and social aspects. Disasters cannot be stopped and their impacts are widespread, causing high rates of death, injury, significant damage to infrastructure and economies, and loss of community members (Nastiti, 2022). Based on data from the National Disaster Management Agency in 2024, 3,472 natural disasters occurred in Indonesia. The high number resulted in 540 people died, 63 people were reported missing, 11,531 people were injured, and as many as 8,136,271 people were displaced. The types of disasters recorded include 1,420 floods, 973 forest and land fires, 733 extreme weather events, 207 landslides, and 15 earthquakes (BNPB, 2025). Earthquakes that occur in Indonesia increase every year. There have been 42 earthquakes in the last two years in several regions of Indonesia with 6 fatalities, 65,656 people injured and material losses such as houses and public facilities as many as 720 units (BNPB, 2025).

Earthquakes are a type of natural disaster that is still difficult to predict. Earthquakes usually occur due to friction between tectonic plates beneath the earth's surface, which releases great energy and causes vibrations on the ground. Some of the factors that can trigger earthquakes include the movement of tectonic plates, volcanic activity (volcanism), the collapse of the roof of a cave or empty space underground that causes collapse, the fall of an asteroid, and explosions due to explosives such as dynamite or nuclear weapons (Madona, 2021). The large number of victims due to earthquake disasters is often caused by the low level of community preparedness and the lack of ability to face and anticipate these disasters. One of the important steps in reducing the risk of disasters originating from nature is to increase preparedness for individuals and health workers (Setyaningrum & Setyorini, 2020). Preparedness is one of the activities carried out to anticipate disasters through an appropriate organisation system and is useful in ensuring quick and appropriate efforts when dealing with disasters that occur. Preparedness stages include the preparation of a disaster emergency management plan trial, organising, installing and testing early warning systems, providing and preparing supplies to meet basic needs, preparing evacuation locations, compiling accurate data, information and updating disaster emergency response fixed procedures, as well as equipment to fulfil the restoration of infrastructure and facilities (Ihsan et al., 2022).

Self efficacy is one of the factors that can influence disaster preparedness in health workers. Self efficacy is a person's belief in his ability to exercise a form of control over the person's own functions and events in the environment. (Sugiri & Fatmawati, 2025). Self efficacy has been perceived to have a significant influence on behaviour when dealing with problems that are perceived to be less controllable. Individuals who have low self efficacy tend not to act because they think they do not have the competence to deal with disasters. Conversely, individuals who have high self efficacy tend to be more prepared for disasters, because self efficacy increases the number of plans developed by individuals and perseverance in implementing them (Sithoresmi et al., 2022). This is supported by Sanjaya (2022) showing the results of the study, self-efficacy, caring and organisational commitment significantly impact the readiness of nurses in facing disasters. In line with the research of Adi Yunanto et al (2023) that there is a significant relationship between self-efficacy and nurse preparedness in the face of disaster.

Another factor that influences nurses' preparedness in dealing with disasters is attitude. Attitude is a collection of symptoms in responding to a stimulus or object, so that attitude involves thoughts, feelings, attention and other psychological symptoms. Attitude has a driving force in the form of motivation in disaster preparedness, nurses have a positive attitude if nurses carry out disaster preparedness and a negative attitude if nurses decide not to carry out disaster preparedness (Kornitasari, 2019). According to Smith (2007) in Sitinjak et al., (2019) states that the attitude of nurses' willingness to respond in disaster response and preparation is needed in disaster management. This is supported by the results of research by Huriani et al (2020) which found a significant relationship between attitude and preparedness. As well as according to Setiawati et al (2020) stated that the attitude of nurses has a link with health service preparedness in the face of disasters. The Sukabumi Regency Coastal Area is a southern coastal area of West Java and directly faces the Indo-Australian plate boundary and is traversed by the Cimandiri fault, which is an earthquake source zone. Based on the results of risk analysis from overlaying the database of hazard, vulnerability and resilience/capability factors in the coastal area of Sukabumi District, it shows that the area has an earthquake risk level with a total area of 16,915.8 Ha (about 11.56% of the total area). The purpose of this study was to determine the effect of self efficacy and attitude on nurses' preparedness in facing earthquake disasters in the Coastal Region of Sukabumi Regency

## METHOD

This type of research is correlational with a cross sectional approach. The population was all nurses in the Sukabumi Regency Coastal Area with a sample of 160 people. Inclusion criteria were nurses who were willing to be respondents and had worked for more than 1 year and were domiciled in the coastal area of Sukabumi Regency. The sampling technique used total sampling. The data collection technique used a questionnaire. Research instruments for attitude and preparedness variables refer to the Likert scale while for self-efficacy instruments using the General Self-Efficacy Scale (GSES). The results of the validity test on all instruments for each variable have a p value < 0.05 and are declared valid. The results of the instrument reliability test for each variable > 0.6 so that it is declared to have a high reliability value. Descriptive analysis was carried out by making a frequency distribution table with percentage calculations and bivariate and multivariate analyses using simple linear regression and multiple linear regression by previously testing classical assumptions. Ethical approval for this study was obtained from Sukabumi College of Health Sciences with ethical number No:000520/KEP STIKES SUKABUMI/2023.

## RESULT

Table 1.  
Frequency Distribution of Variables

Variable	f	%
Age (Years)		
< 45	111	69.4
≥ 45	49	30.6
Gender		
Male	46	28.8
Female	114	71.3
Education		
Diploma	109	68.1
Bachelor/Master	51	31.9
Length of Employment (Years)		
< 5	37	23.1
≥ 5	123	76.9
Disaster Training		
Have Participated	125	78.1
Haven't Participated	35	21.9

Table 1 shows that most respondents are < 45 years old as many as 111 people (69.4%), female as many as 114 people (71.3%), have a diploma degree as many as 109 people (68.1%), working for more than 5 years as many as 123 people (76.9%), have participated in disaster training as many as 125 people (78.1%).

Table 2.  
Univariate Analysis

Variables	Mean	SD	Min	Max
Self Efficacy	28.62	7.77	13	40
Attitude	63.78	11.27	33	88
Preparedness	54.62	13.38	38	80

Table 2 shows that the average value on the self efficacy variable is 28.52 with a standard deviation value of 7.770, the lowest value is 13 and the highest value is 40. Furthermore, the average value on the attitude variable is 63.78 with a standard deviation value of 11.271, the lowest value is 33 and the highest value is 88. Finally, the average value on the preparedness variable is 54.62 with a standard deviation value of 13.384, the lowest value is 38 and the highest value is 80.

Table 3.  
The Effect of Self Efficacy and Attitude on Preparedness

Model	B	t	P-Value	R Square
(Constant)	34.067	9.153	< 0.001	0.174
Self Efficacy	0.726	5.776	< 0.001	
(Constant)	22.188	3.967	< 0.001	0.182
Attitude	0.512	5.922	< 0.001	

Table 3 shows that from the results of simple regression coefficient analysis, it can be concluded that there is a significant influence between self efficacy and attitude towards nurse preparedness. This is indicated by the p-value in the regression coefficient test is < 0.001 ( $p < 0.05$ ) which means  $H_0$  is rejected. The amount of contribution of each variable is 17.4% and 18.2% to nurse preparedness, respectively.

Table 4.  
The Simultaneous Effects of Self Efficacy and Attitude on Preparedness

Model	B	t	P-Value	R Square
(Constant)	13.616	2,423	< 0.017	0.274
Self Efficacy	0,555	4,477	< 0.001	
Attitude	0,398	4,651	< 0.001	

Table 4 shows that from the results of multiple regression coefficient analysis, it can be concluded that there is a significant simultaneous effect between self efficacy and attitude towards nurse preparedness. This is indicated by the p-value in the regression coefficient test is < 0.001 ( $p < 0.05$ ) which means  $H_0$  is rejected. The magnitude of the contribution of the two variables to nurse preparedness is 27.4%.

## DISCUSSION

### The Effect of Self Efficacy on Disaster Preparedness

The results showed that there is an effect of self efficacy on disaster preparedness. These results are in line with the research of Mariam et al., (2021) which states that there is an effect of self efficacy on disaster preparedness. This result is reinforced by Oktavia (2019) which states the same thing where self efficacy affects disaster preparedness. Preparedness refers to a series of activities and actions taken to ensure the ability to respond optimally to potential threats, with the main objective of minimising risks to human safety and damage to assets. In this preparation stage, a number of strategic steps need to be taken, such as mastering relevant information and skills, developing plans to mitigate the impact of hazards, providing emergency facilities and equipment, and implementing preventive protection efforts (Davarani et al., 2023). One of the factors that influence preparedness is self-efficacy. According to Bandura, self-efficacy is an individual's belief in his or her ability to organise actions that affect the functioning of the self and the surrounding environment. Individuals with high levels of self-efficacy tend to have strong confidence in facing difficult situations and are confident in their ability to overcome the problems they face. The level of self-efficacy also determines a person's tendency to choose activities, which is influenced by an optimistic or pessimistic view of their ability to survive in challenging or uncertain situations. This belief plays an important role in shaping individual preparedness for possible threats (Sithoresmi et al., 2022).

Self-efficacy is known to contribute significantly to individual behaviour patterns in situations that are considered difficult to control. Individuals with low levels of self-efficacy tend to be passive and reluctant to take action because they feel they lack the ability to deal with disaster conditions. In contrast, those with high self-efficacy show better preparedness in responding to disasters, as this belief encourages them to design more strategies and show consistency in implementing them (Herdwiyanti & Sudaryono, 2013 dalam Sithoresmi et al., 2022). Self-efficacy helps nurses get through bad and stressful situations. Nurses' self-efficacy affects their attitudes and behaviour and is linked to their understanding. Nurses need to have the knowledge and skills needed to reduce the impact of disasters on the community, including trauma, injury, stress, and psychic pain management, as well as controlling the spread of disease (Said & Chiang, 2020).

### **The Effect of Nurses' Attitudes on Disaster Preparedness**

The results showed that there was an effect of attitude on nurses' preparedness in facing disasters. These results are supported by Dewi et al (2023) which shows that there is a significant effect of nurses' attitudes on nurses' preparedness in facing disasters. This is reinforced by the research of Wurjatmiko et al (2018) which also shows that there is a positive influence of nurses' attitudes on nurses' preparedness in facing disasters. Preparedness is a series of actions designed to anticipate disasters through the process of organising and implementing effective and efficient steps, so as to minimise the negative impacts caused, both in the form of material damage and casualties (Bukhori & Suselo, 2023). The next factor that influences nurses' preparedness is attitude. According to Notoatmodjo, attitude is a person's closed response to a certain stimulus or object, which already involves the opinion and emotion factors concerned (happy-displeased, agree-disagree, good-not good, and so on) (Hildayanto, 2020). Carter states that preparedness is an activity or action in the concept of disaster management that allows individuals, communities, organisations, and even governments to be proactive in responding to a situation before a disaster occurs (Sandajaya, 2020).

Nurses' readiness and willingness to respond in emergency situations is crucial in the disaster management process. Nurses' attitudes play a crucial role in preparedness, especially in terms of disaster response, decision-making in critical situations, and the application of managerial skills in caring for victims from various cultural backgrounds and conditions. Nurses' attitudes are also an important component in displaying professionalism when working in teams and collaborating with other health workers, both in the preparation phase and during a disaster. Attitude greatly influences the role of nurses in disasters, especially as aid providers and part of the disaster management system. Furthermore, a positive attitude can encourage nurses to continuously improve their knowledge related to disaster management. Thus, nurses' attitudes towards disaster management directly impact their level of preparedness, especially in the face of disasters such as floods, so efforts are needed to continue to strengthen nurses' attitudes and willingness to respond in a responsive and planned manner (Hardiyati & Muhafilah, 2021).

### **Simultaneous Effect of Self Efficacy and Attitude on Nurse Preparedness**

The results showed that simultaneously there was a significant influence of nurses' self efficacy and nurses' attitudes and on nurses' preparedness in facing disasters. This proves that nurses' self efficacy and attitudes related to disaster simultaneously or simultaneously affect preparedness in the face of disaster. Nurse preparedness is inseparable from the factors of self-belief or self efficacy and nurse attitudes about disaster preparedness. When nurses have good self-efficacy, it will encourage nurses to have a positive or good attitude. A positive attitude from nurses will certainly make nurses pay attention and care about disaster preparedness which includes pre-disaster, emergency response, and post-disaster impact. Nurses are one of the spearheads in disaster issues and have a great responsibility in

controlling disaster risk, especially in the health sector. Nurses should have self efficacy and disaster preparedness attitudes to take action to prepare for emergencies quickly and appropriately, in order to reduce the impact of disasters so that it will encourage nurses to have a level of preparedness that is very ready to face disasters (Direja & Wulan, 2018).

## CONCLUSION

Self efficacy and nurses' attitudes in disaster preparedness partially and simultaneously affect nurses' preparedness in facing disasters significantly. It is hoped that the health centre will increase the competence of nurses related to disaster through continuous disaster training and simulation.

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